

FINDING OF NO SIGNIFICANT IMPACT

LEASE OF PARCEL ED-1 OF THE OAK RIDGE RESERVATION TO THE EAST TENNESSEE ECONOMIC COUNCIL

AGENCY: U.S. DEPARTMENT OF ENERGY

ACTION: FINDING OF NO SIGNIFICANT IMPACT

SUMMARY: The U.S. Department of Energy (DOE) has completed an environmental assessment (DOE/EA-1113) for the proposed lease of 957.16 acres of the Oak Ridge Reservation (ORR) to the East Tennessee Economic Council (ETEC)*, a non-profit community organization, for a period of 10 years, with an option for renewal. ETEC proposes to develop an industrial park on the leased site to provide employment opportunities for DOE and contractor employees affected by decreased federal funding. Based on the results of the analysis reported in the EA and implementation of mitigation measures defined in this Finding of No Significant Impact (FONSI), DOE has determined that the proposed action is not a major Federal action that would significantly affect the quality of the human environment within the context of the National Environmental Policy Act of 1969 (NEPA). Therefore, preparation of an environmental impact statement (EIS) is not necessary, and DOE is issuing this mitigated FONSI. DOE will implement a Mitigation Action Plan for this project and provide annual reports on mitigation and monitoring.

PUBLIC AVAILABILITY OF EA AND FONSI: The EA, mitigated FONSI, and Mitigation Action Plan may be reviewed at and copies of the documents obtained from
U.S. Department of Energy
Public Reading Room
55 Jefferson Circle, Rm 112
Oak Ridge, Tennessee 37830
Phone: (423) 241-4780.

FURTHER INFORMATION ON THE NEPA PROCESS: For further information on the NEPA process, contact

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* ETEC is now known as Community Reuse Organization of East Tennessee.

BACKGROUND: The proposed action is the lease of 957.16 acres of U.S. Department of Energy (DOE) land on the Oak Ridge (Tennessee) Reservation (ORR) to the East Tennessee Economic Council (ETEC). The Secretary of Energy proposed the action pursuant to Section 3154 of the Defense Authorization Act of 1994 (the Act) (Public Law 103-160), which grants authority for the lease of real property at a DOE facility that is (1) to be closed or reconfigured, (2) not currently needed by DOE, and (3) under DOE control. Per the terms of the proposed lease, the sole purpose for which the lessee (ETEC) would use the parcel of land (designated Parcel ED-1) would be to further and support economic development in the region. The need for DOE action is driven by a decreased budget that will impact jobs and the economy in Oak Ridge and surrounding communities. The proposed action is wholly intended to help offset potential economic losses resulting from DOE and contractor downsizing in the near term and to diversify the economic base of the region in the long term.

Parcel ED-1 is proposed by ETEC to be developed as an industrial park. The parcel was selected for lease after DOE reviewed present and future programmatic needs for various land areas of the ORR that met the size requirements of ETEC. Specific industries to be located at Parcel ED-1 will not be known until infrastructure is developed and ETEC negotiates subleases. Industrial use shall be required to conform to the city of Oak Ridge Zoning Ordinance (Chapter 7, Sect. 6-713 IND-2, Industrial Districts). Environmental and socioeconomic factors will be considered in development plans, and buffer zones will be designated to protect sensitive ecological resources, such as floodplains, wetlands, streams, and unique plant and animal communities.

ALTERNATIVES: Three alternatives to the proposed action were considered: no action, lease of other ORR land to ETEC, and disposal of Parcel ED-1. If no action is taken, Parcel ED-1 would be retained as DOE property and would continue in its current use (wildlife management, silviculture, ecosystem research, and environmental monitoring). If DOE does not take action, jobs lost by downsizing and strategic realignment may not be replaceable in the near term.

Leasing other ORR land and disposal of Parcel ED-1 were dismissed from further consideration. Other ORR lands are now being utilized or are planned for future programmatic uses. In addition, there are no other parcels of sufficient size and contiguity on the perimeter of the ORR to meet the land requirements for an industrial park. Further, DOE has determined at this time that it should retain fee-title in order to encourage the kind of investment necessary for long-term commercial development, and to continue environmental research programs and maintain measures to preserve environmentally sensitive areas.

ENVIRONMENTAL IMPACTS:

Land Use

Current land use of Parcel ED-1 for wildlife management, silviculture, and environmental research would be affected by development of industrial facilities and infrastructure. However, industrial use would be compatible with similar use of the nearby DOE Oak Ridge K-25 Site. All of Parcel ED-1 is within the DOE Oak Ridge National Environmental Research Park, which is part of a system of Research Parks that provide protected land areas for research and education in the environment sciences to demonstrate that energy technology development can be compatible with a quality environment. With the implementation of specific mitigation and monitoring of the parcel during infrastructure and industrial development, and facilities operation, Research Park objectives could be met. National Environmental Research Park and Oak Ridge National Laboratory (ORNL) Environmental Sciences Division staff will be available to provide assistance to DOE and ETEC during the planning, development, and operation of facilities.

Geology and Soils

Site clearing, grading, contouring, and excavation would change topography of some areas of the site but would not affect the underlying geology. Some soils on the parcel are "prime farmland", which is protected under the Farmland Protection Policy Act. DOE has been advised by the U.S. Natural Resources Conservation Service (NCRS) (formerly Soil Conservation Service) that because Parcel ED-1 lies wholly within the city of Oak Ridge, the prime farmland designation is waived, and other uses of the land, such as industrial development, are permitted.

Air Quality

Construction. Fugitive particulates and gaseous exhaust would be produced by earthwork and vehicle and machinery operation. Concentrations of nitrogen oxides, sulfur dioxide, carbon monoxide, unburned hydrocarbons, and particulates would increase near the disturbed areas. Emissions would be localized, short-term, and sporadic. Because of dispersal of emissions in the atmosphere, changes in off-site ambient concentrations of these pollutants would be negligible. Ambient concentrations of particulates at and near the parcel are well-below National Ambient Air Quality Standards (NAAQS). Results of modeling indicate that the NAAQS for particulates would not be exceeded because of the increment added by Parcel ED-1 construction.

Operations. Operation of industrial facilities may produce atmospheric pollutant emissions, including radionuclides, lead, nitrogen oxides, sulfur dioxide, carbon dioxide, and particulates. Modeling results indicate that the increment of pollutant emissions from hypothetical facilities, typical of those that may locate on Parcel ED-1, would not result in exceedances of NAAQS. Incremental emissions from facilities planning to locate at Parcel

ED-1 would be evaluated on a case-by-case basis by state and federal regulatory agencies prior to issuance of air permits. The regulatory air permit review process is designed to protect human health and the environment.

Water Resources

Erosion. Earthmoving activities may increase sediment transport and deposition in surface waters. Impacts to water quality and aquatic biota, can be minimized by the use of Best Management Practices, which include, but are not limited to, (1) avoiding construction within the East Fork Poplar Creek (EFPC) and Bear Creek (BC) floodplains, (2) using siltation fences, (3) providing at least 30 m (100 ft) of natural vegetation riparian zone buffers with a wider buffer in steep areas, and (4) revegetating bare soil with native plants.

Stormwater and effluent discharge. Stormwater runoff and effluent discharge from industrial facilities would be managed to minimize impacts to local hydrology and water quality. Paved and unpaved areas would be contoured so that runoff drains to a sump or basin. Collected stormwater, domestic wastewater, and liquid industrial waste streams would be pretreated, if required, and directed to either the DOE K-25 Site or City of Oak Ridge wastewater treatment facility, both of which have adequate capacity to accommodate additional effluents. Treated waters from either of these facilities would continue to be discharged to surface water in accordance with limitations established in a revised or new National Pollutant Discharge Elimination System (NPDES) permit issued by the State of Tennessee. If permit limits are consistently met, degradation of aquatic habitat would be minimal. To minimize impacts to aquatic species, cooling water from industrial facilities would not be discharged to streams until cooled to the ambient temperature of the receiving water.

Consumptive use. City-supplied water is available to the site, and wells would not be drilled for groundwater use or wastewater disposal.

Floodplains/Wetlands

The lease will require that no development occur in 100-year floodplains or in wetlands. If ETEC or its sublessees undertake actions other than routine maintenance (e.g., repairs to bridge abutments or existing roads) in floodplains or wetlands, DOE must be notified and appropriate environmental reviews conducted at the lessee's or sublessee's expense.

Terrestrial Ecology

The forest on Parcel ED-1 is an important segment of all ORR forested area and may include unique and rare species. Protected and natural corridor areas are located along EFPC and its major tributaries. Development of non-protected areas would disturb or remove approximately 50% of vegetation on Parcel ED-1. Removal of native vegetation would reduce the value of the natural areas to wildlife. Eventual development of the parcel would eliminate

all wildlife habitat in developed areas. Vegetation removal would increase forest fragmentation and loss of connectivity at the scale of structural species (e.g., overstory, understory, subcanopy forest structure), keystone species, and rare species.

In developed areas, construction and maintenance of industrial facilities would result in permanent loss of vegetation and reduced structural diversity of remaining plant communities (e.g., grass instead of trees, shrubs, and herbs). These losses would greatly simplify wildlife habitat, which in turn would limit wildlife species diversity. Species that adapt most readily to human presence would predominate (e.g., deer, skunk, raccoon, rabbit, woodchuck, beaver, opossum, starling, resident Canada goose). Species that require large forested areas (e.g., neotropical migratory songbirds) would be adversely affected by loss of habitat, increased predation and parasitism from species that benefit from openings and edges in the surrounding forest.

Fugitive particulates released during construction and operation would be dispersed and deposited in nearby terrestrial and aquatic habitats. Airborne and waterborne toxics have the potential to adversely impact the food chain by injuring or killing plants, amphibians, and invertebrates. Deer populations would probably increase because of the creation and/or maintenance of edges and openings near bottomland hardwood forest. Total or near-total removal of habitat could displace deer into other areas, including the city of Oak Ridge. Further, restriction of deer hunting on the parcel would add to the 8,000 acres of the ORR already restricted (increase from 25% restricted to 31% restricted), thereby further limiting the ability to control the deer herd.

Threatened and Endangered (T&E) Species

In compliance with Section 7 of the Endangered Species Act, DOE consulted informally with the FWS for information on T&E species. Bottomland forest on EFPC provides an abundance of suitable habitat for maternity colonies of the endangered (federal and state) Indiana bat (*Myotis sodalis*), but no colonies have been observed. EFPC may also provide foraging habitat for the federal- and state-listed endangered gray bat (*Myotis grisescens*), which has been documented on the ORR. The FWS has agreed that exclusion of bottomland hardwood habitat and the EFPC floodplain from development would protect these species.

New populations of state-threatened *Hydrastis canadensis* (golden seal), state-endangered *Cypripedium acaule* (pink lady slipper), and state-threatened *Panax quinquefolia* (ginseng) have been located on Parcel ED-1 near EFPC. All populations are located within National Environmental Research Park Natural Area (NA) 47, which would be excluded from development. In addition, all are found elsewhere on the ORR.

Parcel ED-1 also supports state-listed in-need-of-management animal species (sharp-shinned hawk, southeastern shrew, and Tennessee dace). State law requires that neither these species nor their habitats be knowingly destroyed without a permit from the state [Tennessee

Code Annotated Title 70, Chap. 8, and regulations of the Tennessee Wildlife Resource Agency (TWRA)]. Exclusion of development in NA-47 would protect species and habitat at that location; however the hawk and shrew occur elsewhere on the parcel.

Socioeconomics

Oak Ridge and surrounding communities would benefit from the development of Parcel ED-1. DOE's strategic realignment and Congressional budget allocations will in the near term necessitate involuntary separation of DOE and DOE contractor employees nationwide. In Oak Ridge, some of these losses would be offset by new employment opportunities at industries that locate at Parcel ED-1.

Minority and/or low-income populations in Oak Ridge, which are concentrated in an area more than 2 miles away, would not be disproportionately affected by the proposed action.

Historic and Archaeological Resources

Archaeological and historic resources on all but 80 acres of the parcel have been surveyed and catalogued in consultation with the Tennessee State Archaeologist. In accordance with DOE's commitment to protect properties included on and eligible for listing on the National Register of Historic Places and at the request of the State Historic Preservation Officer (SHPO), three historic sites on Parcel ED-1 would be excluded from development/use, and each would be surrounded by buffer zones. DOE will require that the 80-acre area at the west end of the parcel be excluded from development until a full archaeological survey is completed and approval to proceed with development is granted by the SHPO.

Health and Safety

Workers at Parcel ED-1 construction sites would be subject to safety hazards common to any industrial site. For the most part, adherence to policies and procedures based on Occupational Safety and Health Act regulations would minimize impacts to worker health and safety. In this EA, it was assumed that facilities that would be developed at Parcel ED-1 would be similar to facilities in other Oak Ridge area industrial parks. To date, these operating facilities have reported no unique occupational or public health and safety hazards or issues.

Waste Management

Based on historical operations of Oak Ridge private sector industrial facilities, it is assumed that wastes from similar facilities at Parcel ED-1 could be safely managed. Recycling and waste minimization would be practiced. Nonrecyclables would be packaged and shipped to off-site treatment and disposal facilities, based on their waste classification.

Spills

Accidental spills of hazardous materials would be mitigated by the use of appropriate equipment and cleanup procedures [i.e., Environmental Protection Agency (EPA)-approved spill prevention control and countermeasure plan]. Accidental releases of high concentrations and/or large quantities of pollutants could cause standards to be exceeded. Under the Superfund Amendments and Reauthorization Act of 1986, Title III, industrial facilities are required to report releases of "reportable quantities" of hazardous substances (listed in the Comprehensive Environmental Response, Compensation, and Liability Act and Emergency Planning and Community Right-to-Know Act of 1986) to state and local emergency response personnel. DOE, Lockheed Martin Energy Systems, and the city of Oak Ridge would mobilize emergency response actions in accordance with mutual aid agreements should a release of hazardous materials (to any environmental medium--air, surface water, groundwater, soils) occur on Parcel ED-1. If necessary, emergency personnel from neighboring communities would be recruited for assistance.

MITIGATION:

The following measures shall be implemented to prevent significant adverse impacts to ecological resources, floodplains, wetlands, water resources, and historic and archaeological resources. Measures are comprised of (1) excluding areas on Parcel ED-1 from disturbance and development and (2) conducting surveys and monitoring of industrial development areas prior to disturbance and during facilities operations. DOE shall have the right to terminate the lease with ETEC should the lessee and/or sublessees fail to implement the mitigation defined in this FONSI.

Mitigation of impacts to ecological resources focuses on the preservation of corridors and buffers for aquatic biota, terrestrial wildlife and plant communities by their exclusion from development. Connections with surrounding natural habitats shall be maintained to reduce the effects of fragmentation. In general, such areas shall be larger for wildlife than those recommended for protection of water quality or rare plants, because many wildlife species need large blocks of continuous habitat while others are subject to the effects of predatory and parasitic species associated with forest openings and habitat edges created by development. Mitigation by exclusion would reduce the land area available for industrial development while maintaining the existing use and function of the ecosystem.

Exclusion areas. Fig. S-1 delineates areas available for development. Exclusion areas include the 100-year floodplain of onsite streams; designated natural areas (including bottomland hardwood forests, upland hardwood habitat, walnut plantations, canebrake, limestone cliffs, and limestone bluffs); aquatic natural areas (e.g., Tennessee dace habitat); archaeological and historic sites; special features (caves, springs, wetlands); wildlife corridors; and stream buffers. Total acreage that shall be excluded from development is 491 acres. Estimated land area available for development is 444 acres, which includes acreage at the west end of the parcel for which an archaeological survey shall be required prior to development,

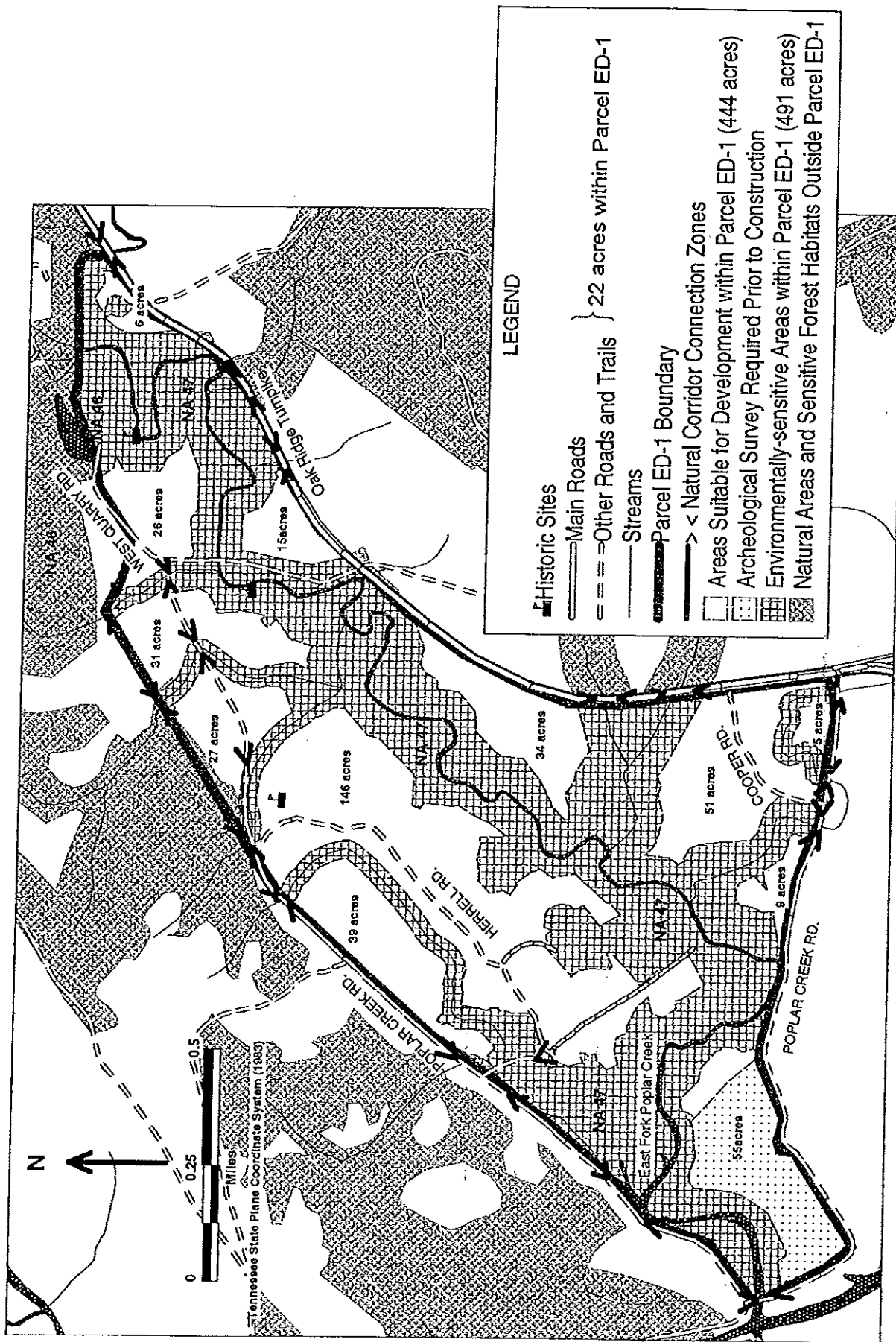


Fig. S-1. Areas available for development on Parcel ED-1 of the Oak Ridge Reservation. Environmentally sensitive areas include the 100-year floodplain, 100-foot stream buffers, Natural Areas (NAs), and sensitive forest habitats.

and acreage required for access and infrastructure. The remaining 22 acres are accounted for by existing roads. The following mitigation shall apply.

1. Bottomland hardwood habitat associated with EFPC and its tributaries, both in and out of the 100-year floodplain, shall not be disturbed. Buffer zones shall extend at least 30 m (100 ft) on each side of streams to protect unique plant communities and to provide adequate habitat to protect interior wildlife species from incursions by species such as the brown cowbird, starling, and European sparrow.
2. Wetland boundaries shall be delineated prior to development. If road, bridge, or other construction is proposed in floodplains or wetlands, all appropriate environmental documentation shall be prepared and areas surveyed prior to disturbance. Surveys would identify areas that would be least impacted by development. Following any development, stream banks, stream sides, and riparian zones shall either be restored to or allowed to regenerate naturally to habitat representative of natural communities in the area. Native plant species consistent with local community types shall be used in restoration and revegetation.
3. Upland hardwood habitat and features of special value for wildlife (e.g., beech-maple forests, karst hardwood communities, walnut plantations, caves, springs) shall be preserved and protected. Clearing of other upland hardwoods shall only be allowed from October to April because of the potential presence of maternity colonies of the endangered Indiana bat during breeding season.
4. National Environmental Research Park NA 47 shall be excluded from development, since all currently identified rare species populations occurring within Parcel ED-1 and representatives of all critically rare and subcritically rare community types identified within Parcel ED-1 are contained within it. The continuity of natural areas (NA-46, NA-47) shall be maintained. The easternmost area of the site shall remain undeveloped to provide continuity of wildlife habitat with adjacent areas. Also, a natural corridor system, a minimum of 61 m (200 ft) wide, shall be retained to connect bottomland habitat to upland hardwood habitat north of the parcel; this would maintain continuity of habitat and mitigate the adverse effects of forest fragmentation. This corridor system shall be configured to include the isolated hardwood stands retained on the north side of the parcel (see Item 3). A method to maintain a corridor across the north-boundary roadway (e.g., an underpass) shall be developed.
5. Roads and utility extensions shall not cross natural areas NA-46 and NA-47.
6. Land temporarily disturbed by construction shall be restored to its original contour and soil content and planted with native vegetation, as advised by the NRCS, TWRA, and FWS.

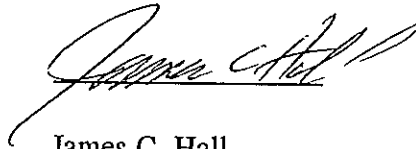
7. Prior to facilities and infrastructure construction, developers shall consult with DOE and with appropriate state and federal agencies to plan landscaping and vegetation management to minimize impacts on songbirds, other nongame and native wildlife, and native plant communities.
8. Developers, DOE, and state and federal agencies shall maintain a continuing dialogue during development to ensure that exclusion areas and sensitive resources are protected as prescribed in this FONSI.

Ecological surveys and monitoring. Both the FWS and the State of Tennessee have requested that areas proposed for development be surveyed for protected species of vegetation and wildlife prior to disturbance and that survey results be shared with these agencies. In addition, follow-up surveys shall be periodically conducted to determine any impacts from development on plant and wildlife populations and the success of mitigation measures. The following ecological surveys and monitoring shall be conducted in consultation with TWRA and FWS.

1. Surveys and monitoring shall focus on, but shall not be limited to, the following: vegetation and wildlife species and habitat protected by state and federal legislation, deer, turkey, wood duck and other waterfowl, breeding birds and their predators, unique or rare plants and plant communities, and wetlands. Surveys of lower EFPC and BC shall be conducted to verify the presence or absence of protected aquatic species.
2. A long-term monitoring program for designated NAs, rare plant species, and rare vegetation communities shall be designed to detect direct and indirect impacts, as well as to monitor continued avoidance of protected areas. Monitoring shall begin prior to any construction activity to provide a baseline with which to compare future data.
3. A long-term monitoring program of aquatic communities shall be designed to study the effects of development. Monitoring shall begin prior to any construction activity to provide a baseline with which to compare future data, to determine if any impacts have resulted from development and operations, and to determine the success of mitigation.
4. To monitor and control the ORR deer population, ETEC shall consult with DOE and TWRA about the possibility of continuing deer hunting north of the site and, if feasible, on the site itself.

DETERMINATION: Based on the findings of this EA and the implementation of mitigation defined in the EA and FONSI, DOE has determined that the proposed lease of Parcel ED-1 to ETEC does not constitute a major Federal action that would significantly affect the quality of the human environment within the context of the National Environmental Policy Act. Therefore, preparation of an environmental impact statement is not required.

Issued at Oak Ridge, Tennessee, this 23 day of April 1996.



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