



DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT DRUM
10000 10TH MOUNTAIN DIVISION DRIVE
FORT DRUM, NEW YORK 13602-5046

IMDR-ZA

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Endangered Species Act Requirements

1. Pursuant to the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), Fort Drum reviews all projects that may affect the federally-endangered Indiana bat and federally-threatened northern long-eared bat and consults with the U.S. Fish and Wildlife Service (USFWS) to ensure our actions will not jeopardize these bats or their habitat.
2. An installation-wide Biological Assessment (BA) was prepared by Fort Drum to analyze potential impacts to Indiana and northern long-eared bats and to identify conservation measures to minimize these impacts. The USFWS reviewed the BA and responded with the requirements which Fort Drum must follow to ensure compliance with the ESA and for the protection of these species.
3. These requirements can be found within the accompanying "Implementing Instrument for Endangered Species Act Consultation Requirements for the Federally-Endangered Indiana Bat and the Federally-Threatened Northern Long-Eared Bat on Fort Drum Military Installation." Ensuring compliance with these requirements is mandatory and the responsibility of every directorate, organization, and individual on Fort Drum that is directly and/or indirectly responsible for actions conducted on Fort Drum (i.e., personnel involved in any aspect of construction, military training, forest management, vegetation management, prescribed burning, pesticide use, wildlife management/vertebrate pest control, and outdoor recreation).
4. Information provided within this document supersedes all other correspondence provided to your organization on this topic. Please begin implementing the appropriate measures/requirements immediately, insert the appropriate language into contract documents, and submit the required information by the established due dates.

IMDR-ZA
SUBJECT: Endangered Species Act Requirements

5. The point of contact for this action is Chris Dobony, Fort Drum Fish and Wildlife Biologist, at 315-778-6348, or christopher.a.dobony.civ@mail.mil.

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DISTRIBUTION:
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**IMPLEMENTING INSTRUMENT FOR ENDANGERED SPECIES ACT
CONSULTATION REQUIREMENTS FOR THE FEDERALLY-
ENDANGERED INDIANA BAT AND THE FEDERALLY-THREATENED
NORTHERN LONG-EARED BAT ON
FORT DRUM MILITARY INSTALLATION**

JANUARY 2021

**Prepared By:
U.S. Army Garrison Fort Drum
Fish & Wildlife Management Program
Environmental Division, Directorate of Public Works**

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HOW TO USE THIS DOCUMENT:

There is duplication throughout this document. This is by design so the user may review specific requirements and measures without referring to other sections of the document that do not apply to their organization. Please identify and apply appropriate measures/requirements pertaining to your specific activities. While all attempts have been made to include all applicable requirements, certain scenarios may not be covered within this document. If there are any questions, please contact Fort Drum's Endangered Species Biologist at 315-778-6348 prior to implementing any action.

MANDATORY TRAINING REQUIREMENT:

The DPW - Environmental Division will provide mandatory training related to this document for all project personnel that are responsible for associated actions conducted on Fort Drum. Personnel responsible for these types of actions should immediately be identified to the Environmental Division. Please contact 315-778-6348 to schedule training.

ANNUAL REPORTING REQUIREMENTS:

Information on construction and vegetation management activities (e.g., maintaining right-of-ways for roads, railroad tracks, and utility lines; clearing vegetation from trails and fence lines; mowing open areas; removing individual trees due to hazards or aesthetics, roots growing into underground pipes or branches growing into utility lines; pesticide/herbicide application, etc.) must be tracked and submitted quarterly (March 31, June 30, September 30, December 31) to the Fort Drum Fish and Wildlife Management Program. Mowing of landscaped yards does not need to be reported.

Additionally, electronic maps of the project limits must be submitted to Fort Drum's Fish and Wildlife Management Program in the form of an appropriately formatted and scaled GIS shape file or DGN prior to the project (as accurate as possible). A final electronic GIS shape file or DGN "As Built" must be submitted after the completion of the project (accurately surveyed). If only individual trees greater than 3 inches (diameter breast height) are to be removed, then a list of the tree count, diameters, and species must be submitted via the Record of Environmental Consideration (REC) process prior to the action. DPW-Environmental can assist with this requirement as requested.

PLANS AND REGULATIONS:

Any changes to *Fort Drum Regulation 350-6 Assignment and Operational Use of Local Training Areas*; *Fort Drum Regulation 420-7 Environmental Regulation*; *Fort Drum's Integrated Pest Management Plan*; *Fort Drum's Integrated Wild/and Fire Management Plan*; *Fort Drum's Utility Design Standards*; and/or any other Plan, Regulation or document referencing these requirements must be coordinated with Fort Drum's Fish and Wildlife Management Program (315-778-6348) since some Conservation Measures are based on these regulations.

WHAT TO DO IF YOU FIND BATS:

All bats found must be immediately reported to Fort Drum's Natural Resources Branch (315-778-6348 or 315-212-6397). Do not attempt to handle any live bats, regardless of

condition. If a live bat is found in a building please contact 315-772-2072 (Pest Control) or 315-778-6348 (Fort Drum Fish and Wildlife Management) to have it humanely removed.

CONSTRUCTION:

1. If any bats are discovered during the demolition or repair of buildings (to include work such as complete and partial building demo, removal/replacement of roofs, siding, etc.), all work must cease and Fort Drum's Fish and Wildlife Management Program (315-778-6348) must be immediately contacted. If the building has pre-existing known bat colonies, then Fort Drum's Fish and Wildlife Management Program must be contacted before work is to occur. (Currently, only buildings within Fort Drum's historic LeRay Area and the 2500 area are known to contain bat colonies) .

2. A Bat Conservation Area (BCA) has been established and will protect Indiana and northern long-eared bat roosting and foraging areas from permanent development within the Cantonment Area and Training Areas 3A and 4A. No permanent facility is to be constructed within the BCA, with the exception of some small facilities (e.g. cabins, picnic shelters, parking lots, a campground, etc.) that may impact no more than 8 ac (3 ha). These actions must be coordinated with Fort Drum's Fish and Wildlife Management Program. The BCA GIS layer is available from the Public Works GIS offices (315-772-5709 or 315-772-1502).

3. No new trails may be constructed within the Bat Conservation Area (BCA) without prior coordination with Fort Drum's Fish and Wildlife Management Program (315-778-6348) and consultation with the US Fish and Wildlife Service.

4. Felling of trees greater than 3 inches (diameter breast height) must occur between October 16- April 15.

5. For bona fide military training emergencies/ immediate construction needs occurring north and east of US Military Highway in the Training Area , no more than 10 forested ac (4 ha; with no more than 5 ac (2.02 ha) per project) may be removed between August 16 - October 15. Prior to tree clearing for training emergencies in August- October, project sites must be surveyed for potential northern long-eared bat habitat. Coordinate with Fort Drum's Fish and Wildlife Management Program (315-778-6348) prior to initiating this type of project.

6. All roost trees used by female bats, including roosts identified in the future, will be protected from construction for the lifespan of the roost tree. Additionally, a buffer will be placed around all of these roosts to protect the roost from disturbance and to maintain a semblance of a natural environment for Indiana and northern long-eared bats. The size and shape of a buffer will be determined on a case by case basis by Fort Drum's Fish and Wildlife Management Program in consultation with the US Fish and Wildlife Service. Coordinate with Fort Drum's Fish and Wildlife Management Program (315-778-6348) to determine roost locations.

7. Clearing of natural vegetation (e.g., shrubs and trees) less than 3 inches (diameter breast height) must typically occur between August 1 - April 15 to minimize the impact to migratory birds and to maintain foraging areas for bats. The project proponent must ensure coordination with the Fish and Wildlife Management Program, via the REC process or direct contact, prior to clearing of any natural vegetation less than 3 inches (diameter breast height).

8. If any vegetation or tree clearing is required for a given construction project, flagging or signs must be used to demarcate construction limits prior to any construction activities. Flagging must be removed upon completion of the project.

9. New buildings should be appropriately designed and constructed so cracks and crevices are not created, vents are screened, etc. Properly constructed buildings will discourage bats from roosting in buildings, thus minimizing human/bat conflicts in occupied dwellings.

10. Project planning and design should attempt to minimize building footprints by combining infrastructure (i.e. roads, utility lines, etc.) for multiple buildings or by constructing multi-story versus multiple or expanded single story buildings whenever possible.

11. Light minimization measures are to be incorporated for all exterior lighting that may include but are not limited to full cutoffs, reflectors, shields, downward angling of lights, and/or reducing correlated color temperature of fixtures. See Appendix 2 for detailed requirements that must be followed to the maximum extent possible. Deviations from these requirements must be coordinated with Fort Drum's Fish and Wildlife Management Program (315-778-6348).

12. No night lighting for construction projects is authorized without prior coordination and authorization from the project manager and Fort Drum's Fish and Wildlife Management Program.

13. All construction projects over an acre are required to prepare a sediment and erosion control plan or a storm water pollution prevention plan (SWPPP), which details all erosion and sediment control practices and, when necessary, post-construction storm water management practices.

14. Storm water management plans should be reviewed with the objective of moving towards integrated infrastructure to reduce the number or completely eliminate the need for storm water retention ponds and the excessive land use required.

15. All personnel responsible for construction activities will be informed about the need to follow design plans, stay within flagging, minimize impacts to wildlife, and other environmental concerns. This may be done through training, Environmental Protection Plans and/or other contract language.

16. The project proponent must ensure coordination with the Forest Management Program and the Fish and Wildlife Management Program prior to felling trees greater than 3 inches (diameter breast height).

17. If wetland mitigation is required, only areas (both on- and off-post) that have no or minimal (e.g., a few isolated trees within a landscape of open grass or shrubland) tree removal will be recommended for wetland mitigation sites. The exception to this would be restoring or creating forested wetlands.

MECHANICAL VEGETATION REMOVAL AND MANAGEMENT:

1. A Bat Conservation Area (BCA) has been established and will protect Indiana and northern long-eared bat roosting and foraging areas from permanent development within the Cantonment Area and Training Areas 3A and 4A. No permanent facility is to be constructed within the BCA, with the exception of some small facilities (e.g. cabins, picnic shelters, parking lots, a campground , etc.) that may impact no more than 8 ac (3 ha). No more than 300 ac per year (and no more than 50 ac in a contiguous block) will be mechanically managed within the BCA annually. This management will primarily be for invasive species removal and must be coordinated with Fort Drum's Fish and Wildlife Management Program. The BCA GIS layer is available from the Public Works GIS offices (315-772-5709 or 315-772-1502).
2. All roost trees used by female bats, including roosts identified in the future, will be protected from construction for the lifespan of the roost tree. Additionally, a buffer will be placed around all of these roosts to protect the roost from disturbance and to maintain a semblance of a natural environment for Indiana and northern long-eared bats. The size and shape of a buffer will be determined on a case by case basis by Fort Drum's Fish and Wildlife Management Program in consultation with the US Fish and Wildlife Service. Coordinate with Fort Drum's Fish and Wildlife Management Program (315-778-6348) to determine roost locations.
3. Felling of trees greater than 3 inches (diameter breast height) must occur between October 16 - April 15, unless a high risk hazard tree has been identified by the Forest Management Program. All potential hazard trees must be assessed by the Forest Management Program (315-772-5614 or 315-772-3170). If a hazard tree is determined to be of high risk, is greater than 3 inches (diameter breast height), and needs to be removed between April 16 - October 15, the Fort Drum Fish and Wildlife Management Program must be notified in advance so they may also assess the tree. If appropriate, an emergence survey will be conducted and if no bats are observed , then the hazard tree must be promptly removed .
4. The project proponent must ensure coordination with the Forest Management Program and the Fish and Wildlife Management Program prior to felling trees greater than 3 inches (diameter breast height).
5. Trees that are considered aesthetically unappealing for landscaping purposes may be removed during the tree clearing window (October 16 - April 15) if it is not a known roost tree. These trees are typically trees that have structural defects, do not leaf-out completely, and/or are dead. Because they do not pose an immediate risk to harming people or damaging property, trees that need to be removed for aesthetic reasons are not the same as hazard trees. See# 3 above for a description of hazard tree management.
6. Clearing of natural vegetation (e.g., shrubs and trees) less than 3 inches (diameter breast height) must typically occur between August 1 - April 15 to minimize the impact to migratory birds and to maintain foraging areas for bats. The project proponent must ensure coordination with the Fish and Wildlife Management Program, via the REC process or direct contact, prior to clearing of any natural vegetation less than 3 inches (diameter breast height). Mowing of landscaped yards, which are generally defined as those areas that are adjacent to buildings and/or contain grasses less than 4 inches tall, are not considered for this requirement.

7. Mowing/ vegetation removal by machinery will not occur within 100 ft of known roost trees to avoid disturbing roosting bats and maintaining cover around the roosts. However, individual or clusters of invasive plants close to known roosts(< 3 in DBH) may be removed by hand clipping or cutting or with brush saws between 15 August - 15 April.

8. If soils are impacted by vegetation clearing, degraded areas should be repaired via actions that may include grading, compacting, seeding, and application of fertilizer, lime, and mulch. This minimizes erosion run-off into waterways, and thus protects water quality and associated invertebrates, which may be prey for Indiana bats.

9. Vegetation management activities should typically avoid delineated water bodies/wetlands. Although there is no formal buffer requirement around wetlands, a 20-30 ft (6-9 m) buffer is typically maintained around identified wetlands as a best management practice. This leads to less impacts to water quality and protects water sources for Indiana bats.

10. No more than 300 ac per year (and no more than 50 ac in a contiguous block) will be mechanically removed within the BCA annually.

LAND CONVERSION (NOT CONSTRUCTION):

1. Bat Conservation Area. Approximately 2,200 ac (890 ha) have been set aside for Indiana bats. This BCA will also provide the same protections to northern long-eared bats. Land conversion will not occur within the BCA without additional consultation with the USFWS.

2. Roost Tree Protection. No female roost trees, including roosts identified in the future, will be felled for the lifespan of the roost, unless there is a human health and safety concern. This includes roost trees in and outside of the BCA.

3. Roost Tree Avoidance . Land conversion activities will not occur within 0.75 mi (1.2 km) of known maternity roost trees located outside the BCA without further consultation with the USFWS. An exception to this requirement would be the forested areas in and immediately adjacent to Wheeler Sack Army Airfield <WSAAF>. In order to meet federal regulations for air safety, some of these areas may be converted from forest to grassland for ease of maintenance and to minimize catastrophic bird-aircraft strikes. These areas were originally clearcut in 2005 and contain trees primarily less than 4 inches dbh. They have now regrown to heights that are once again becoming a safety concern. Some areas will be maintained as forest, but will be clearcut approximately every 5-10 years to keep them at the appropriate height. Other areas will be completely converted to grass.

4. No more than a total of 50 ac/year in each category (100 ac total for military training and wildlife habitat benefits) of land conversion will occur in forested areas with > 3 inches dbh trees. This will help to ensure large areas within a contiguous area will not be removed, minimizing the potential to remove a large percentage of unknown roost trees.

5. Time of Year Restriction. A time of year restriction for clearing trees(> 3 inches DBH) has been established to protect roosting bats during non-hibernation seasons. Felling of trees must take place between October 16 - April 15 while most Indiana or northern long-eared bats are not on Fort Drum.

6. No cutting of trees will occur within or along the bed or bank of streams protected under Article 15 of the New York State Environmental Conservation Law unless required to meet specific management goals and only after obtaining a permit from NYSDEC.

7. A minimum of 70 sq ft of residual basal area, all snags, and all live trees > 16 inches DBH that have noticeable cracks, crevices, or exfoliating bark will be retained around all perennial streams and open waterbodies (2 ac or greater in size) on Fort Drum. A perennial stream is defined as having flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow. If land conversion treatments are needed that do not meet this conservation measure and that do not have a "no effect" determination, then individual consultation will be required with the USFWS. This buffer protects water quality and provides foraging habitat for Indiana and northern long-eared bats. Indiana bats are known to utilize riparian corridors that have suitable vegetative cover for foraging and for roosting in nearby trees.

8. For annual reporting purposes, the proponent of the land conversion activities will provide shape files of converted areas and vegetative cover types pre- and post-conversion (within a scaled map to Fort Drum's Fish and Wildlife Management Program. This information will be used to describe the vegetative cover types and habitat modification on Fort Drum and will be reported annually to the USFWS.

PESTICIDE/HERBICIDE APPLICATION:

1. Only pesticides registered by the Environmental Protection Agency and New York State may be applied, and only in accordance with their label.

2. Aerial application of pesticides outside the SCA must occur between the hours of sunrise and one hour before sunset.

3. Aerial application of pesticides in the Bat Conservation Area (SCA) is prohibited. The SCA GIS layer or map is available from the Public Works GIS offices (315-772-5709 or 315-772-1502).

4. Other total pesticide application via machine will be limited to 300 ac per year in the SCA: Up to 50 ac per year (no more than 25 ac in a contiguous block) for tow-behind power mist blowers; and 300 ac per year (no more than 50 ac in a contiguous block) for other ground machine mounted pesticide spraying equipment (e.g., ATVs, tractors, Skid Steers, etc.) utilizing wet blade application, boom sprayers, or other similar equipment.

5. Tow-behind power blowers will not be utilized until after August 15 in all forested areas to allow bat pups to reach volancy and exit an area if disturbed by this activity. Deviations from this conservation measure will require further consultation with the USFWS.

6. Pesticides applied from tow-behind power blowers will use drift control additives and will be applied using low pressure to reduce drift and potential swirling motion from the blower. All efforts will be made to not spray more than 10 feet above ground level.

7. Whenever possible, herbicides that have low toxicity to mammals will be utilized with the tow-behind power blowers. Herbicides that may be somewhat toxic to mammals will be mixed and applied at the lowest allowable rate (per the label) to help minimize any potential exposure concerns.

8. Unlimited acreage for individual spot application, slash and squirt hand application, individual stem injection, or other ground application done directly by hand may be treated.

9. Application of pesticides from ground-mounted vehicles (trucks, tractors, atvs, etc.) that spray chemicals directly onto the vegetation/ground and do not result in broad dispersal will be conducted at least 100 ft (30 m) away from known roost trees (including roosts identified in the future) and 250 ft (76 m) from known primary roosts. Pesticides applied from ground mounted vehicles will use drift control additives and droplet sizes appropriate for reducing drift. Coordinate with Fort Drum's Fish and Wildlife Management Program to determine known roost locations. Location-specific applications (i.e., hatchet injections of trees, individual application to specific plants) may be used within 100-250 ft (30 -76 m) of known roosts.

10. Application of pesticides that result in broad dispersal (e.g., tow behind power mist blowers) will be conducted at least 250 ft (76 m) away from known roost trees (including roosts identified in the future) and 500 ft (152 m) from known primary roosts. Pesticides will be applied between sunrise and one hour before sunset.

11. Pesticides will not be applied outdoors when the wind speed exceeds 10 mi/hr for all ground applications except power mist blowers. Pesticides applied via power mist blower will only be applied with wind speeds 8 mi/hr or less. This is to reduce the risk of pesticide drift, which could impact water quality or non-target areas. Care will be taken to make sure that any spray drift is kept away from non-target areas and individuals.

12. Areas where herbicide will be applied aerially must be delineated by painted boundaries or other markers on the ground.

13. Aerial application will utilize helicopters and employ large droplet technology through special nozzles on drop tubes to ensure good precision and accuracy in application and that the herbicide stays on target.

14. Pesticides applied aerially will only be applied with wind speeds 8 mi/hr or less.

15. Pesticides will not be applied to any protected wetlands, streams, or other waters of NY State without obtaining the appropriate permits. Pesticides will not be applied to any created wetland mitigation sites without coordination with Fort Drum's Wetland Management office. Only herbicide approved for aquatic areas will be used in any other wetland areas that may be over-sprayed.

16. If a bat colony is found roosting in a building, then insecticides are to be used sparingly and no foggers are to be used.

17. For each pesticide application, Applicators will utilize the Pesticide Usage Database that is available through the Natural Resources Branch or the Pest Control office to report applicable information about: who applied the pesticide; what and how much was applied; where it was

applied; why it was applied; and when it was applied . Maps of the treated areas may also be required for annual reporting purposes to the USFWS. For pesticides applied indoors or immediately along the exterior ,of the building, no map would be required.

SILVICULTURE AND FOREST MANAGEMENT:

1. A Bat Conservation Area (SCA) has been established and will protect Indiana and northern long-eared bat roosting and foraging areas from permanent development and habitat loss within the Cantonment Area and Training Areas 3A and 4A. No timber harvests will occur within the SCA until an appropriate management plan has been developed and consulted on with the US Fish and Wildlife Service. If there is a bona fide need for timber harvesting in the BCA, consultation will have to be reinitiated. The SCA GIS layer is available from the Public Works GIS offices (315-772-5709 or 315-772-1502).

2. All roost trees used by female bats, including roosts identified in the future, will be protected for the lifespan of the roost tree. Additionally, a buffer will be placed around all of these roosts to protect the roost from disturbance and to maintain a semblance of a natural environment for Indiana and northern long-eared bats. The size and shape of a buffer will be determined on a case by case basis by Fort Drum's Fish and Wildlife Management Program in consultation with the US Fish and Wildlife Service. Coordinate with Fort Drum's Fish and Wildlife Management Program (315-778-6348) to determine roost locations.

3. Clearcutting and overstory tree removal cannot occur within 0.75 mi (1.2 km) of known maternity roost trees located outside the SCA without further consultation with the US Fish and Wildlife Service. An exception to this requirement is a small number of small forested patches (ranging from ~5-15 acres) that will be clearcut at or near WSAAF to meet federal regulations for air safety. The majority of these patches contain trees primarily less than 4 inches dbh. They will be maintained as forest, but will be clearcut approximately every 5-10 years to keep them at the appropriate height. Selective thinning may not occur within one tree height of the known roost tree to minimize the risk of accidentally felling a known maternity roost during the non-hibernation season. Tree height is based on the average height of the stand (~80 ft (24 m)) surrounding the roost tree. For selective thinning harvests within 0.75 mi (1.2 km) of a known maternity roost, all snags and live trees >16 inches (diameter breast height) that have noticeable cracks, crevices, or exfoliating bark are to be retained. Further consultation will be needed with the USFWS for timber harvests that do not follow this conservation measure.

4. Felling of trees greater than 3 inches (diameter breast height) must occur between October 16 - April 15, unless there a high risk hazard tree has been identified by the Forest Management Program. If a hazard tree is determined to be of high risk, is greater than 3 inches (diameter breast height), and needs to be removed between April 16 - October 15, the Fort Drum Fish and Wildlife Management Program must be notified in advance so they may also assess the tree. If appropriate, an emergence survey will be conducted, and if no bats are observed, then the hazard tree must be promptly removed.

5. Clearing of natural vegetation (e.g., shrubs and trees) less than 3 inches (diameter breast height) must typically occur between August 1 - April 15 to minimize the impact to migratory birds and to maintain foraging areas for bats. The project proponent must ensure coordination with the Fish and Wildlife Management Program, via the REC process or direct contact, prior to clearing any natural vegetation less than 3 inches (diameter breast height).

6. TSI actions will be performed at least 250 ft (76 m) away from known roost trees (including roosts identified in the future) and 500 ft (152 m) from known primary roosts (including roosts identified in the future). Pesticides used for TSI actions will be applied between sunrise and one hour before sunset. Location -specific applications (i.e., hatchet or stem injections of trees, individual application to specific plants) may be used within 500 ft (152 m) of known roosts.

7. Felling of standing trees for firewood harvest must occur between October 16 - April 15. All of the Cantonment Area (which includes the known primary Indiana bat roosting areas) is now off limits to any/all firewood cutting.

8. All snags will be left in silvicultural treatments unless there is a safety concern for the contractor or the military units training in the stands (e.g., maneuver corridors), or unless the treatment is a salvage harvest or clearcut. Snags should be distributed and retained throughout the landscape.

9. No trees are to be cut within or along the bed or bank of streams protected under Article 15 of the New York State Environmental Conservation Law unless required to meet specific management goals and only after obtaining a permit from New York State Department of Environmental Conservation (NYSDEC).

10. Vegetation management activities should typically avoid delineated water bodies/wetlands. Although there is no formal buffer requirement around wetlands, a 20-30 ft (6-9 m) buffer is typically maintained around identified wetlands as a best management practice. This leads to less impacts to water quality and protects water sources for Indiana bats.

11. A minimum of 70 sq ft of residual basal area, all snags, and all live trees greater than 16 inches (diameter breast height) that have noticeable cracks, crevices, or exfoliating bark must be retained around all perennial streams and open waterbodies (2 ac or greater in size) on Fort Drum. A perennial stream is defined as having flowing water year-round during a typical year.

12. Whenever possible, new log landings should be constructed at least 200 ft (61 m) from water bodies and wetlands.

13. Spill kits and oil absorbent mats must be present on log landings in case of fuel, lubricant or hydraulic fluid spills or leaks.

14. If soils are impacted by vegetation clearing, degraded areas should be repaired via actions that may include grading, compacting, seeding, and application of fertilizer, lime, and mulch.

15. Where possible, skid trail grade needs to be maintained at less than 15%. Where higher grade is unavoidable, the grade should be broken, drainage structures should be installed, and soil stabilization practices should be used where needed to minimize runoff and erosion.

16. Debarking and other damage to residual trees should be minimized wherever possible.

17. Stream crossings should only be used when absolutely necessary.

18. Streams should be crossed by the most direct route.

19. Ruts will be filled in, and water bars and erosion barriers should be installed to prevent or minimize erosion and sedimentation from roads, skid trails and log landings.

20. Erosion control measures need to be inspected within 24 hours after a rain event and checked once per week. Erosion controls should be maintained or removed as needed.

21. No machinery is to be operated in streams protected under Article 15 of the New York State Environmental Conservation Law without first obtaining a permit from NYSDEC.

22. During hardwood removals, dead or dying oak trees that may have been typically removed from the stand should be left in the targeted units. This is limited to areas that receive large amounts of sunlight during the day (e.g. the edge of the stand, near an opening within the stand, etc.) to provide roost trees for Indiana bats and other wildlife.

23. Whenever possible, a percentage of suitable live trees (i.e., trees that look as if they have the potential to develop into future snags) should be retained, so cavities appropriate for wildlife may develop and for future snag recruitment. Suitable trees should be long lived hardwoods >15 inches (diameter breast height) and have the greatest potential to develop cavities. In wetland areas 10 ac (4 ha) or larger with open water and shorelines greater than 30 m apart, 20 suitable trees should be left for every 50 ac (20 ha) harvested within 0.5 mi (0.8 km) of wetlands.

24. When possible, unique forest openings (e.g. patch cuts of aspen varying from 1-10 ac in size removed from the stand) should be provided.

VERTEBRATE PEST CONTROL:

1. All bats found must be immediately reported to Fort Drum's Natural Resources Branch (315-778-6348 or 315-212-6397).

2. If any colonies of bats are found in structures and there is a requirement to remove/exclude them, any actions should only be done through a systematic process and after coordination with Fort Drum's Fish and Wildlife Management.

3. No lethal control methods are permitted for bats unless there is a suspected human health risk for exposure to rabies or other disease. If individual bats are in buildings and there is no evidence of maternity use, then all efforts must be made to safely capture and release individual bats. Or, bats may be excluded by establishing one-way valves over the roost's exit (if feasible). Exclusions may only be done from August - early May.

4. Sealing cracks and crevices in buildings must also be done during the late fall, winter, or early spring.

5. No adhesive traps used for rodents or insects are to be placed in such a manner that they could capture bats-glue traps are not to be placed in any crawl space or attic compartment within buildings or in areas where bats are known to occur.

MILITARY TRAINING:

1. A Bat Conservation Area (BCA) has been established and will protect Indiana and northern long-eared bat roosting and foraging areas from permanent development and habitat loss within the Cantonment Area and Training Areas 3A and 4A. No permanent facility is to be constructed within the BCA. Temporary facilities for training purposes may be constructed within the BCA with prior coordination with Fort Drum's Fish and Wildlife Management Program (315-778-6348) . The BCA GIS layer is available from the Public Works GIS offices (315-772-5709 or 315-772-1502).
2. No tree felling will occur in the SCA for training purposes. If tree felling must occur outside the SCA, prior coordination and approval by Fort Drum's Forest Management and Fish and Wildlife Management Programs must occur. Additionally, tree felling will be in accordance with Construction and Vegetation Removal Requirements above.
3. No new trails may be constructed within the Bat Conservation Area (BCA) without prior coordination with Fort Drum's Fish and Wildlife Program (315-778-6348) and consultation with the US Fish and Wildlife Service.
4. Felling of trees greater than 3 inches (diameter breast height) must occur between October 16 - April 15, unless there is a bona fide training emergency or a high risk hazard tree has been identified by the Forest Management Program.
5. For bona fide military training emergencies/ immediate construction needs occurring north and east of US Military Highway in the Training Area , no more than 10 forested ac (4 ha; with no more than 5 ac (2.02 ha) per project) may be removed between August 16- October 15. Prior to tree clearing for training emergencies in August- October, project sites must be surveyed for potential northern long-eared bat habitat. Coordinate with Fort Drum's Fish and Wildlife Management Program (315-778-6348) prior to initiating this type of project.
6. All roost trees used by female bats, including roosts identified in the future, will be protected for the lifespan of the roost tree. Additionally, a buffer will be placed around all of these roosts to protect the roost from disturbance and to maintain a semblance of a natural environment for Indiana and northern long-eared bats. The size and shape of a buffer will be determined on a case by case basis by Fort Drum's Fish and Wildlife Management Program in consultation with the US Fish and Wildlife Service. Coordinate with Fort Drum's Fish and Wildlife Management Program (315-778-6348) to determine roost locations.
7. All trees that are believed to be hazards need to be assessed by the Forest Management Program (315-772-5614 or 315-772-3170). They will determine whether or not the trees are truly a hazard, and it will then be determined when the trees need to be removed. If it is determined to be of high risk, is greater than 4 inches (diameter breast height), and needs to be removed between April 16- October 15, the Fort Drum Fish and Wildlife Management Program must be notified in advance so they may also assess the tree. If appropriate, an emergence survey will be conducted and if no bats are observed, then the hazard tree must be promptly removed.

8. No Category 1 smoke operation will be conducted within 1,000 m of the installation boundary, public roads, Cantonment Area, ammunition supply point or WSAAF in accordance with *Fort Drum Regulation 350-4 Range Regulation* and *Fort Drum Regulation 350-6 Assignment and Operational Use of Local Training Areas (LTAs)*.

9. In the Training Area, Category 1 smoke and obscurants can only be used greater than 330 ft (100 m) from known Indiana or northern long-eared bat maternity roost areas (including roosts identified in the future) between April 16 - October 15. Coordinate with Fort Drum's Fish and Wildlife Management Program (315-778-6348) to determine roost locations. Training missions will be aware of maternity areas via the NEPA REC process and will be directed to avoid these areas. The use of Category 1 smoke and obscurants must also be rotated among training areas to minimize impacts to any one area.

10. The use of Category 2 smoke, to include colored smoke, smoke grenades, and smoke pots (aka, pyrotechnics) may be used in the Training Areas at any time, but not within 500 m of the installation boundary or public roads in accordance with *Fort Drum Regulation 350-4 Range Regulation*.

11. Category 2 smoke may not be used within (330 ft) 100 m of any known Indiana or northern long-eared bat roost areas between April 16 - October 15.

12. Category 2 smoke may not be used within 100 m of any forested areas within the LTAs between April 16- October 15. Approval from Range Control and NEPA review (via the REC process) is required prior to any use of Category 2 smoke within the Cantonment Area, and these reviews will help ensure that Category 2 smoke use is in accordance with this conservation measure.

13. Category 2 smoke may be periodically used at three mobile MOUTs within the LTAs during April 16 - October 15, but only with an exception to use policy IAW FD Reg 700-5 and FD Reg 350-6 for use within the Cantonment Area. Only infrequent use of colored smoke is expected to be used in the mobile MOUTs. No other smoke or obscurant may be used in the BCA.

14. Vehicular traffic is restricted to open grassy areas and within easy access of the road in the Local Training Areas in accordance with *Fort Drum Regulation 350-6 Assignment and Operational Use of Local Training Areas*. Vehicles are not permitted to cross streams, ditches, wetlands, or dense vegetation in order to reach grassy areas without prior NEPA review (via the REC process).

15. Petroleum, Oil, and Lubricant operations are prohibited in the Local Training Areas in accordance with *Fort Drum Regulation 350-6 Assignment and Operational Use of Local Training Areas*.

16. Fort Drum must abide by the most up-to-date Fort Drum Integrated Wildland Fire Management Plan, unless training under special circumstances that are approved by the commander. Military activities that may spark fires are not to be conducted during moderate to high danger ratings in order to prevent unintentional wildfires.

RECREATION:

1. The current skeet range is located adjacent to the Bat Conservation Area (BCA). Shooting at this facility sends fields of fire over known fall, summer, and assumed spring foraging locations for Indiana bats. From April 15 - October 15 the skeet range must not be operated between 1 hour before sunset to 30 minutes after sunrise to prevent the accidental shooting of an Indiana or northern long-eared bat. The skeet range may be operated during daylight hours from 30 minutes after sunrise to 1 hour before sunset.

APPENDIX 1: LANGUAGE FOR CONTRACTS, SOWs, RFPs, EPPs, etc:

1. The federally-endangered Indiana bat and the federally-threatened northern long eared bat are present on Fort Drum and must be considered in all actions. Actions on Fort Drum, must be in accordance with requirements negotiated with the US Fish & Wildlife Service under Section 7 of the Endangered Species Act. Projects involving ANY habitat modification (e.g., vegetation removal) must be addressed by Fort Drum's Fish and Wildlife Management Program. In general, no trees greater than 3 inches (diameter breast height) may be cut from 16 April - 15 October to avoid any direct adverse effects to these bats. Clearing of natural vegetation (e.g., shrubs and trees) less than 3 inches (diameter breast height) must typically occur between August 1 - April 15 to minimize the impact to migratory birds and to maintain foraging areas for bats. The contractor (and all subcontractors) shall be responsible for coordination with Fort Drum's Fish & Wildlife Management Program to ensure compliance with the Endangered Species Act and all other applicable laws and regulations pertaining to wildlife. Overall the contractor (and all subcontractors) shall minimize interference with, disturbance to, and damage to plants, fish, wildlife, and their habitats on and adjacent to the project area.

2. Flagging or signs must be used to demarcate construction limits of a given project prior to any construction activity, vegetation, and/or tree clearing. Clearing must only occur within the flagged area, and flagging must be removed upon completion of the project.

3. If any bats are discovered during the demolition or repair of buildings (to include work such as complete and partial building demolition, removal/replacement of roofs, siding, etc.), all work must cease and Fort Drum's Fish and Wildlife Management Program (315-778-6348) must be immediately contacted. If the building has pre-existing known bat colonies, then Fort Drum's Fish and Wildlife Management Program must be contacted before demolition is to occur. (At this time, the only structures known to contain bat colonies are within the historic LeRay Area and the 2500 area).

4. All bats found must be immediately reported to Fort Drum's Natural Resources Branch (315-778-6348 or 315-212-6397). Do not attempt to handle any live bats, regardless of condition. If a live bat is found in a building please contact 315-772-2072 or 315-778-6348.

5. Light minimization measures are to be incorporated for all exterior lighting that may include but are not limited to full cutoffs, reflectors, shields, downward angling of lights and/or reduction of correlated color temperatures to reduce blue-rich, white light. See Appendix 2 for detailed requirements that must be followed to the maximum extent possible.

6. No night lighting for construction projects is authorized without prior coordination and authorization from the project manager and Fort Drum's Fish and Wildlife Management Program.

7. Project planning and design should attempt to minimize building footprints by combining infrastructure (i.e. roads, utility lines, etc.) for multiple buildings or by constructing multi-story versus multiple or expanded single story buildings whenever possible.

Appendix 2. Outdoor Lighting Minimization Measures.

Purpose

The purpose of the Fort Drum Outdoor Lighting Guidelines is to regulate outdoor lighting in order to reduce or prevent light pollution. This means to the extent reasonably possible the reduction or prevention of glare and light trespass, the conservation of energy, and promotion of safety and security. These Guidelines will ensure appropriate outdoor lighting in compliance with the Endangered Species Act and in accordance with the Fort Drum's Army Strategic Plan for Sustainability.

Definitions

- a. **Fixture Height:** height of the fixture shall be the vertical distance from the ground directly below the centerline of the fixture to the lowest direct light emitting part of the fixture.
- b. **Foot-candles:** a unit of illumination of a surface that is equal to one lumen per square foot. For the purposes of these regulations, foot-candles shall be measured at a height of 3 ft. above finished grade.
- c. **Fully Shielded Light:** light fixtures shielded or constructed so that no light rays are directly emitted by the installed fixture at angles above the horizontal plane as certified by a photometric test report. The fixture must also be properly installed to effectively down direct light in order to conform with the definition.
- d. **Light Trespass:** the shining of light produced by a light fixture beyond the boundaries of the property on which it is located.
- e. **Lumen:** the unit of luminous flux, the total amount of light falling uniformly on or passing through an area of 1 square foot, each of which is 1 foot from a 1-candela source, yielding an illuminance of 1 foot candle at that distance (the output of lamps and bulbs is customarily measured in lumens, a common 100 watt incandescent light bulb, for example, having an output less than 1,800 lumens).
- f. **Point Light Source:** the exact place from which illumination is produced (i.e., a light bulb filament or discharge capsule).
- g. **Sag-lens or Drop-lens:** A clear or prismatic refracting lens that extends below the lowest opaque portion of a light fixture.

Applicability

All outdoor lighting fixtures installed, retro-fitted, or replaced on Fort Drum property shall comply with these regulations. These regulations do not apply to interior lighting.

Exemptions

The following are exempt from the provisions of these guidelines:

- a. Traffic control signals and devices.
- b. Temporary emergency lighting (i.e., fire, police, repair workers).
- c. Moving vehicle lights.
- d. Navigation lights (i.e., airports, heliports, radio/television towers).
- e. Seasonal decorations with individual lights in place no longer than 60 days.
- f. Lighting for flags. Efforts should be made in these areas to minimize sky glow and light trespass whenever feasible.
- g. Sports field outdoor lighting (i.e. ball fields, football, soccer, ice rink, etc.). Sports outdoor lighting is to be turned off when a sporting event is not occurring.
- h. Other special situations for temporary or periodic events (i.e. fairs, festivals, carnivals, night-time construction).
- i. Security lights of any wattage that are controlled by a motion-sensor switch and which do not remain on longer than 10 minutes after activation.
- j. Access points, Army Supply points, or other high security areas subject to AR 190-11 or TM-8-583-2. Efforts should be made in these areas to minimize sky glow and light trespass whenever feasible.

Additional exemptions may be provided after coordination with Fort Drum's Fish and Wildlife Management Program.

General Standards

All building exterior lighting and site lighting shall be at a minimum in accordance with these requirements and/or the most recent Fort Drum Utility Design Standards. A Professional Engineer must review any lighting plan in and ensure it is sound and meets minimization requirements. The following general standards shall apply to all outdoor lighting installed, retrofitted, or replaced on Fort Drum, which is not exempted above :

- a. Outdoor lighting must be hooded, fully shielded (i.e. full cutoff fixtures), and/or aimed downward. Outdoor lighting used to illuminate parking spaces, driveways, maneuvering areas, or buildings shall conform to the definition for "fully shielded light fixtures" and be designed, arranged and screened so that the point light source shall not be visible from adjoining lots (i.e. woodlands) or streets.

- b. The intensity of light within a site shall not exceed two (2) footcandles at any property line, edge of pavement, or road. There shall be no or minimal measureable light output behind the light pole.
- c. The hood or shield must mask the direct horizontal surface of the light source. The light must be aimed to insure that the illumination is only pointing downward onto the ground surface, with no escaping light permitted to contribute to sky glow by shining upward into the sky.
- d. Any bright light shining onto adjacent properties (i.e. woodlands) or streets which would result in a nuisance glare or a disabling glare shall not be permitted. Light trespass beyond property boundaries or above the horizontal plane shall be considered non-compliant.
- e. Existing fixtures may be adapted to comply with these guidelines by adding a properly designed hood or shield, or by pointing any upward-mounted, shielded fixture downward onto the ground surface.
- f. All outdoor lighting fixtures shall be designed, installed, located and maintained such that nuisance glare onto adjacent properties (i.e. woodlands) or streets shall be minimized and all direct illumination kept within the boundaries of a building's property.
- g. Accent lighting shall be directed downward onto the building or object and not toward the sky or onto adjacent properties (i.e. woodlands). Direct light emissions shall not be visible above the roof line or beyond the building edge.
- h. Spotlighting on landscaping and foliage shall be limited to 150 watts (2220 lumens output) and lighting is to be angled downwards. The lamp shall be fully shielded and not create disabling or nuisance glare.
- i. No sag-lens or drop-lens are to be used.
- j. LED light fixtures shall be utilized to the maximum extent practicable and in accordance with Fort Drum's latest Utility Standards. These fixtures shall be long life, coupled with high efficient drivers. LED lights shall incorporate measures to reduce blue-rich white light output. These measures will be coordinated with Fort Drum's electric shop and Natural Resources Branch prior to implementation, but could include things such as targeting wavelengths between 550-650 nm, and/or reducing the correlated color temperature of the fixture to 3000K or lower. A map is available that designates areas in which utilizing lower correlated color temperatures is required. This can be viewed through Fort Drum's Fish and Wildlife Management Program and/or the electric shop.



DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT DRUM
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IMDR-ZA

DEC 1 92011

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Endangered Species Act Requirements

1. Pursuant to the Endangered Species Act of 1973 (ESA) (87 Stat. 884; as amended; 16 U.S.C. 1531 et seq.), Fort Drum reviews all projects that may affect the federally-endangered Indiana bat and federally-threatened northern long-eared bat and consults with the U.S. Fish and Wildlife Service (USFWS) to ensure our actions will not jeopardize the bats or their habitat.
2. An installation-wide Biological Assessment (BA) was prepared by Fort Drum to analyze potential impacts to Indiana and northern long-eared bats and to identify conservation measures to minimize these impacts. The USFWS reviewed the BA and responded with the requirements which Fort Drum must follow to ensure compliance with the ESA and for the protection of these species.
3. These requirements can be found within the accompanying "Implementing Instrument for Endangered Species Act Consultation Requirements for the Federally-Endangered Indiana Bat and the Federally-Threatened Northern Long-Eared Bat on Fort Drum Military Installation." Ensuring compliance with these requirements is mandatory and the responsibility of every directorate, organization, and individual on Fort Drum that is directly and/or indirectly responsible for actions conducted on Fort Drum (i.e., personnel involved in any aspect of construction, military training, forest management, vegetation management, prescribed burning, pesticide use, wildlife management/vertebrate pest control, and outdoor recreation).
4. Information provided within this document supersedes all other correspondence provided to your organization on this topic. Please begin implementing the appropriate measures/requirements immediately, insert the appropriate language into contract documents, and submit the required information by the established due dates.

IMDR-ZA
SUBJECT: Endangered Species Act Requirements

5. POC for this action is Chris Dobony, Fort Drum Fish and Wildlife Biologist , at 315-772-4999 , or christopher.a.dobony.civ@mail.mil.

A handwritten signature in black ink, appearing to read "Ken Harrison", with a long horizontal flourish extending to the right.

KENNETH O. HARRISON
Colonel, MI
Garrison Commander

DISTRIBUTION :
A