

Draft Compatibility Determination

Title

Draft Compatibility Determination for Commercial Tree Harvesting, Ernest F. Hollings ACE Basin National Wildlife Refuge (NWR)

Refuge Use Category

Agriculture, Aquaculture, and Silviculture

Refuge Use Type(s)

Tree Harvesting (Commercial)

Refuge

Ernest F. Hollings ACE Basin NWR

Refuge Purpose(s) and Establishing and Acquisition Authority(ies)

- "... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions . . . " 16 U.S.C. Â§ 3901(b) (Emergency Wetlands Resources Act of 1986)
- "... for the development, advancement, management, conservation, and protection of fish and wildlife resources . . ." 16 U.S.C. Â§ 742f(a)(4)
- "... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude . . ." 16 U.S.C. Â§ 742f(b)(1) (Fish and Wildlife Act of 1956)

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System, otherwise known as Refuge System, is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (Pub. L. 105-57; 111 Stat. 1252).

Description of Use

Is this an existing use?

Yes, this draft compatibility determination reviews and replaces the 2009 compatibility determination for commercial timber harvest. The 2009 compatibility determination “Forest Management Commercial Timber Harvest” was evaluated and found to be compatible in conjunction with the Ernest F. Hollings ACE Basin National Wildlife Refuge Comprehensive Conservation Plan, Environmental Assessment, and Finding of No Significant Impact (CCP/EA.FONSI; USFWS 2009a, b). The use is being reevaluated to satisfy the Service’s policy (603 FW 2.11 H.) to reevaluate non-priority public uses every ten years.

What is the use?

The use is commercial tree harvesting, which is defined as the cutting and removing of trees by various techniques, such as selective cutting or clear cutting, for sale or commercial use as wood, paper, chips, other fiber products, Christmas trees, or firewood. This use is being re-evaluated pursuant to Fish and Wildlife policy that uses other than priority wildlife-dependent recreational uses require reevaluation every 10 years. The forest management techniques identified in the Ace Basin Habitat Management Plan (HMP) (USFWS 2015) includes commercial thinning and other silvicultural practices used to improve forest health and habitat conditions. Although forest management on refuges would be conducted solely to enhance forest conditions, contracts are an economic use as part of forest management practices. The use of commercial loggers in an active forest habitat management program can assist land managers with maintaining appropriate forest structure, age, and/or size class distribution of trees on the landscape.

Is the use a priority public use?

No

Where would the use be conducted?

The use may occur throughout the refuge’s forested areas, exclusive of legally designated wilderness areas and other specified set-aside areas. The forested areas include five cover types; Natural Pine (424 acres), Pine-Hardwood Mix (1,563 ac), Pine Plantations (682 ac), Bottomland Hardwood (1,524 acres), and Upland Hardwood (4 acres) (USFWS 2015; Appendix A, Figure 1).

When would the use be conducted?

Commercial tree harvesting could occur year-round during daylight hours. When creating treatment schedules, the Service would consider how to most effectively minimize potential adverse impacts on wildlife while maximizing desired silvicultural

outcomes. The Special Use Permit (SUP) for each timber sale addresses any specific time and duration restrictions based on refuge operations, wildlife considerations, and public uses (i.e., hunts, wildlife resources, etc.). All forest management would occur at times designed to minimize undesirable impacts on resources (e.g., erosion, soil compaction, or wildlife disturbance) and long-term impacts to visitation while maximizing the desired forest management results. Management objectives would be focused on the restoration of loblolly stands to longleaf pine (*Pinus palustris*) in support of Red-cockaded Woodpeckers (*Picoides borealis*) and Swallow-tailed Kites (*Elanoides forficatus*), and management of cropland and moist soil wetlands to provide food resources for migrant and wintering waterfowl, specifically dabbling ducks, but including King Rails (*Rallus elegans*), and Swallow-tailed Kites.

How would the use be conducted?

These forest management practices would be accomplished using both contracted and in-house actions. A management or silvicultural prescription (a plan that describes specific treatments to be applied to discrete areas that is not included in this compatibility determination but should be considered an integral part of this compatibility determination. [see 6 RM 3.4B, Management Prescriptions]) steps down from the refuge's CCP and HMP (USFWS 2009a, b, USFWS 2015). The prescription is prepared by the refuge forester, submitted by the refuge manager, reviewed by the regional forester, and approved by the area supervisor. It also undergoes Section 7 endangered species and Section 106 cultural resources consultations. Any proposed harvesting is accomplished through a special use permit with local timber interests. Normally, bids are solicited from interested parties and awarded to the highest bidder. Bids may be lump sum (the total amount of the estimated value of the timber is paid in advance) or per unit (pay as you cut based on a guaranteed price per product class per ton). The refuge reserves the right to reject any and all bids. A special use permit is issued to the successful bidder for each timber sale. Special use permits are carefully written, addressing Special Conditions Applicable to the Timber Harvesting Permit, Best Management Practices for Forestry (South Carolina Forestry Commission n.d.), a Record of Payments, and any time or place harvesting is not permitted. Harvesting is monitored by refuge personnel or designee to ensure adequate safeguards for refuge resources in accordance with refuge planning documents.

Why is this use being proposed or reevaluated?

During the CCP/Environmental Assessment (EA) process in 2009, the refuge included appropriate use and compatibility determinations for forest management and commercial timber harvest. Silvicultural activities such as commercial harvest of timber products are used to restore forests, maintain forest health and improve wildlife habitat on the refuge. Further, commercial tree harvesting is an important

habitat management tool to reduce wildfire risk and increase the area's resiliency against climate change and other threats. In the future, commercial timber harvest for forest management may be necessary to maintain, restore, or create habitat for wildlife species associated with blackwater and alluvial forested wetlands such as Swallow-tailed Kites, and wildlife associated with upland pine forests, such as Red-cockaded Woodpeckers, Northern Bobwhite Quail (*Colinus virginianus*) and other priority species as listed in the refuge's Comprehensive Conservation Plan (USFWS 2009).

Commercial management practices are the preferred method to manage refuge forests safely and efficiently in a cost-effective manner. It is impractical for the refuge to acquire the necessary equipment and staff to efficiently conduct these management actions.

Availability of Resources

The refuge manager in consultation with the regional forester and staff would make silvicultural prescriptions and administer all forest-related activities on the refuge. Costs associated with commercial forest management would be dependent upon the scope, goals, and objectives of the operation. With existing staff resources, periodic and small-scale harvest operations can be administered properly and safely and in a way that would not materially interfere with or detract from fulfillment of the refuge purposes and the Refuge System mission (Table 1).

Special Equipment, facilities or improvements: Most operations would involve contract labor or timber sales to forest products companies that provide or contract professional logging crews.

Planning costs: An initial expense of \$12,000 is needed to complete the forest management plan and develop signage and brochures prior to conducting forest management activities.

Maintenance Costs: The average cost to support forest management at Ernest F. Hollings ACE Basin NWR is \$14,000 annually to post signage and administer and manage the contract.

Off-setting Revenue: Any permit fees or timber sale receipts would not off-set costs since these funds would be deposited into general accounts as opposed to being returned to the refuge.

Table 1. Costs to Administer and Manage Commercial Tree Harvesting at Ernest F. Hollings ACE Basin National Wildlife Refuge

<i>Category and Itemization</i>	<i>One-time Cost</i>	<i>Recurring Annual Expenses</i>
Develop Plan/NEPA document/opening package	\$10,000	0
Develop signage and brochures	\$2,000	\$1,000
Survey and post use area boundary	0	\$5,000
Staff time (LE, administration and management)	0	\$6,000
Maintenance	0	\$2,000
Total one-time expenses	\$12,000	
Total recurring annual expenses		\$14,000

Anticipated Impacts of the Use

Potential impacts of a proposed use on the refuge's purpose(s) and the Refuge System mission

Commercial tree harvesting is an existing use on the refuge and was previously analyzed and approved in the 2009 CCP/EA/FONSI (USFWS 2009a, b). It was previously found to not have significant impacts; was previously determined not to materially interfere with or detract from the purposes of the refuge or the Refuge System mission; and was previously found not to conflict with maintaining the biological integrity, diversity, or environmental health of the refuge (USFWS 2009a, b).

The CCP/EA/FONSI (USFWS 2009a, b) addressed the direct, indirect, short-term, long-term, and cumulative impacts of the use on the refuge. The use and environmental conditions have not changed substantially since the use was evaluated in 2011. No significant beneficial or adverse short-term, long-term, or cumulative impacts are associated with commercial tree harvesting on the refuge as outlined in this CD. The impacts analysis from the CCP/EA/FONSI (USFWS 2009a, b) associated with the use is incorporated herein by reference; only summary and updated impacts are provided in this CD.

The effects and impacts of commercial tree harvesting covered in this CD, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the uses. Resources that would not be more than negligibly impacted by the use have been dismissed from further analysis. The refuge manager may modify or eliminate the use at any time to address resource concerns, unacceptable impacts, and public safety needs or to adapt to changing conditions.

Short-term impacts

Commercial harvesting operations would result in short-term disturbances for forest habitats. Short-term impacts are anticipated during tree removal and could include disturbance and displacement of wildlife that is typical of any noisy heavy equipment operation, temporary air pollution, disturbance to neighbors, soil disturbance, blocking drainages, and could encourage invasive species distribution. Procedures to minimize these effects are captured in the prescriptions, SUPs, and through monitoring of logging activities for compliance.

Potential impacts include: short-term loss of site-specific habitats with potential impact to bird use and productivity; soil disturbance that may increase exotic plant invasion and erosion; damage to roads and wetlands from equipment; damage to cultural resources; reduced visual aesthetics; and disturbance to wildlife and visitors from harvesting operations. These impacts are generally short-term in nature and on relatively small areas and can be controlled to a large extent by permit conditions and management oversight.

The combination of human presence and the noise associated with heavy equipment and motorized hand tool operation may temporarily disturb wildlife, including birds and bats. Tree harvesting has the potential to disturb and displace wildlife including birds and bats from the harvest area during and after harvest operations (Frid and Dill 2002, Müllner et al. 2004, Thiel et al. 2008, Ikuta and Blumstein 2003, Beale and Monaghan 2004, Yasue 2005, Pease et al. 2005, Livezey et al. 2016, Martín et al. 2015).

The endangered Northern Long-eared Bat (*Myotis septentrionalis*) and proposed endangered Tri-colored Bat (*Perimyotis subflavus*) could occur in this area. Endangered species consultation and resulting mitigation, including timing of timber harvest may be used to mitigate potential impacts to bats. Avoiding roosts during periods of hibernation and torpor when temperatures are less than 40 degrees Fahrenheit and avoiding maternity sites during the pupping season are recommended as voluntary guidance for forest habitat modification (USFWS 2024). Minimizing disturbance to summer bat habitat is essential to ensure bats have access to diurnal roosting sites and nocturnal foraging areas.

To minimize air and noise pollution, the staff would monitor heavy equipment and restrict equipment to that which has been up kept to industry standards. This equipment use would be allowed only during limited time frames, last approximately

one month out of the year and only occur during daylight hours. Despite these potential negative short-term impacts on wildlife, positive impacts are expected to outweigh the negative impacts. In a study conducted in the bottomland hardwood forests at Tensas River National Wildlife Refuge, treated stands resulted in greater community-wide bird diversity in comparison to untreated stands (Twedt and Somershoe 2009).

Forest management operations may have negative impacts on both water quantity and quality (Bormann et al. 1968; deMaynadier and Hunter 1995; Cullen 2001). Road improvements, skid trail planning, harvest operations, and interaction with surface and groundwater hydrology would follow best management practices advocated by the state's forestry agency to minimize water quality impacts. Maintaining forested buffers near streams and other aquatic resources would minimize impacts on water resources and water quality (Osborne and Kovacic 1993; Wilkerson et al. 2006). Selective thinning, not clearcutting, would be the primary harvest method.

The increased use and ongoing maintenance of roads, creation of logging decks, and the operation of heavy equipment may impact soil, causing rutting and erosion (Helfrich et al. 1998; Wiest 1998; Cullen 2001). To minimize potential impacts and erosion, timber harvesting operations would follow the best management practices as recommended by state forestry agencies and Standard Operating Procedures for Protecting Historic and Archaeological Resources During Mechanical Tree Cutting Activities (Service/VDHR). Timber harvesting would occur during dry periods or colder months to reduce soil erosion, compaction, and rutting. Active forest management would occur when site-specific soil conditions are appropriate.

Timber sale areas would be evaluated by the potential of increasing invasive species and would be treated accordingly to prevent infestation increases. Other treatment types besides commercial harvesting could include herbicide spraying and brush cutting, through refuge equipment and contract services. Treatments to exotic invasive species would be managed to not have deleterious effects on the resources of concern. However, the refuge would attempt to minimize all the above impacts whenever possible and implement best management practices to minimize their effects. The benefits of this plan for long-term productivity far outweigh any impacts from short-term actions.

The noise associated with tree harvesting could disturb visitors and endanger their safety. When warranted, areas of the refuge where tree harvesting occurs would be temporarily closed. Disturbance to other public uses is minimized by having commercial and non-commercial activities only on a small portion of the refuge at any one time.

There are currently 4197 acres of forest or potential forest on the refuge, of which, less than 10 percent is expected to be treated annually by timber cutting. The habitat management goals developed in the 2015 HMP include:

Objective 4.5.1: Manage natural pine (loblolly, longleaf, and pond pine) of approximately 424 acres of forested upland acres to create desired forest conditions for resources of concern.

Objective 4.5.2: Initiate conversion of the current refuge pine plantations of approximately 682 acres to either mixed pine-hardwood, through thinning, or to longleaf pine by planting, as determined on a site by site basis that would be more beneficial to migratory landbirds, Red cockaded woodpeckers and threatened and endangered plant resources of concern.

Objective 4.5.3: Maintain or enhance any small marginal bands of upland hardwood, often found adjacent to pine-hardwood and bottomland hardwood sites, in at least the same or improved condition as they currently exist to benefit migratory landbird resources of concern.

Objective 4.6.1: Conduct management action on 1,563 total acres of mixed pine-hardwoods to treat and move them toward either an open pine or an altered mixed pine-hardwood condition to improve forest structure for Migratory landbirds and T/E plants.

Objective 4.6.2: Conduct canopy thinning and group selection openings on at least 50% of 1,524 acres of the bottomland hardwood portion of total forested wetlands to increase sunlight penetration and improve forest structure and habitat diversity for Migratory landbirds and threatened and endangered plants.

Long-term impacts

Most long-term impacts from tree harvesting practices, as prescribed in the Refuge's 2015 HMP, are expected to be beneficial to wildlife by increasing the natural diversity of forested habitats on the Refuge. Using tree harvesting to mimic natural disturbances and improve wildlife habitats relies on creating appropriately timed disturbances similar in size and intensity to historical disturbance regimes. Because wildlife species have differing requirements for cover, food, and nesting sites, it is not possible to use tree harvesting to provide high-quality habitat for all species in the same stand. Most species, particularly species benefiting from disturbance increase after silviculture species (Twedt and Somershoe 2009).

Tree harvesting can have some long-term localized, negative impacts on wildlife and their habitats, including damage to understory vegetation, alteration of microhabitat environments, changes in the abundance and type of coarse woody debris, and removal of snags used by wildlife (deMaynadier and Hunter Jr. 1995, Siitonen 2001, Scheller and Mladenoff 2004). To maximize the positive effects of tree harvesting and minimize harm, the Service would aim to mimic the size and intensity of historical disturbance regimes. The Service would also implement rotational tree harvesting to create a complex habitat matrix with various successional stages while maintaining unthinned areas for species negatively impacted by thinning.

The proposed commercial timber harvesting activities are expected to have minimal long-term impacts on the habitat and populations of Northern long-eared bat (*Myotis septentrionalis*) and Tricolored bat (*Perimyotis subflavus*). This determination is based on the guidelines and conservation measures outlined in the Programmatic Biological Opinion (BO) issued by the U.S. Fish and Wildlife Service (USFWS) for these species. The BO includes specific measures to mitigate potential adverse effects, such as seasonal restrictions on tree removal during critical roosting periods and the preservation of key habitat features like snags and roost trees. By adhering to these measures, the timber harvesting activities will avoid significant disruption to bat populations and their habitats (USFWS 2024). Additionally, ongoing monitoring and adaptive management strategies will be implemented to ensure compliance with the BO and to address any unforeseen impacts.

Tree harvesting can have long-term impacts on soil chemistry, with impact intensity based on the harvest method. Whole tree harvesting, or the practice of cutting the entire above-ground portion of a tree and removing it from the forest, typically has the most severe effects and has been documented to increase soil acidity, decrease soil saturation, and alter nutrient concentrations (Vanguelova et al. 2010, Brandtberg and Olsson 2012). Soil disturbance following timber harvest may increase the export of particulate matter and soil nutrients. To reduce the possibility of negatively impacting soil, the Service would conduct timber harvesting during the fall and winter when conditions are driest and when cold temperatures reduce soil compaction and erosion. The Service would apply extra caution when performing management in areas with hydric, steep, shallow, or easily erodible soils.

Research has shown that tree harvesting can affect water quality. For example, several studies have suggested that total mercury and methylmercury leach into the water from tree harvesting areas (Munthe and Hultberg 2004, Porvari et al. 2003, Sørensen et al. 2009). All forest management measures, including harvesting, can increase sediment and nutrient export into the watershed (Ahtiainen and Huttunen 1999, Laurén et al. 2005, Miettinen et al. 2012). Although tree harvesting can cause increases in nutrient concentrations in the watershed, implementing best management practices can minimize these increases (Wynn et al. 2000). Road construction, skid trail planning, harvest operation, and stream crossings would, at a minimum, follow the best management practices from the State's forestry agency to minimize hydrological alterations and siltation impacts on water quality.

Harvesting would use existing forest roads whenever possible; construction of new roads would occur only when necessary. The decommission of forestry roads would be standard practice after all forest management is completed.

Invasive species could be introduced via heavy equipment, creating a long-term problem. Once present, invasive species can out-compete native plants and animals, thereby altering habitats (Marion et al. 2006, Anderson et al. 2015). Invasive species can alter animal and plant composition, diversity, and abundance (Eiswerth et al.

2005, Davies and Sheley 2007). These changes may reduce native forage, cover, and water sources (Eiswerth et al. 2005). Certain invasive species may even impede access to other recreational activities, such as hydrilla, which blocks waterways. The SUP permit will stipulate that the operator implement best management practices to reduce and prevent the spread of invasive species such as inspecting and cleaning all equipment prior to moving from site to site (LeDoux and Martin, 2013).

Long-term impacts from tree harvesting practices, as prescribed in the Refuge's 2015 HMP are expected to be beneficial by increasing the natural diversity of wildlife associated with the Refuge and increasing opportunities for public outdoor recreation. The long-term impacts on refuge user groups are anticipated to be positive because forest management may increase the presence of wildlife, facilitating wildlife observation and photography, environmental education, wildlife interpretation, and hunting and fishing.

Public Review and Comment

The draft compatibility determination will be available for public review and comment for 14 calendar days from September 16 through September 29, 2025. The public will be made aware of this comment opportunity through letters to potentially interested people such as adjacent landowners, state, and a hard copy of this document will be posted at the Refuge Office at 8675 Willtown Rd., Hollywood, SC 29449. It will be made available electronically on the refuge website (<https://www.fws.gov/refuge/ernest-f-hollings-ace-basin>). Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final CD.

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

Before commencing logging operations, the refuge manager and the permit holder and his logging contractor would discuss the following special conditions. The goal of the following conditions is to protect the refuge forest from unnecessary damage.

1. All commercial forest management operations would be subject to stipulations set forth in an SUP. Stipulations for each individual project would be dependent upon the goals and objectives of the timber harvest, individual site characteristics, and other resource concerns. Stipulations set forth in the SUP would minimize adverse impacts on resources, maximize desired silvicultural results, and ensure the operation is compatible with the mission of the Refuge System and the goals and objectives of Ernest F. Hollings ACE Basin NWR.

2. Commercial harvesters would be selected through a bid process. Each contractor would submit a bid for the service identified.
3. An SUP would be issued to the selected harvester. The SUP would provide specific guidance on location, timing, allowed methods and other restrictions applied to the specific contract.
4. The harvester would remove all temporary access roads upon completion of harvest.
5. The harvester would provide a summary of all trees removed and other accounting information as deemed necessary.
6. To minimize impacts and ensure continued compatibility of the tree harvesting use, the Service uses the HMP to guide the development of specific forest management prescriptions which are then used to mark the specific trees, select a commercial bidder, and issue an SUP for the specific tree harvesting site and action. The listed stipulations and SUP conditions help ensure that the use continues to remain compatible and support refuge purposes and management goals and objectives of Ernest F. Hollings ACE basin NWR. Adapting to changing conditions, the refuge manager may modify or eliminate the use at any time to address resource concerns, unacceptable impacts, or public safety needs.
7. Commercial operators must adhere to all SUP conditions and restrictions.
8. The Service may revoke or modify any SUP for non-compliance, nonperformance, or public safety.
9. Commercial operators must adhere to South Carolina's Best Management Practices for Forestry manual (South Carolina Forestry Commission 2021).
10. To minimize adverse impacts, the existing network of roads and trails would be used for timber activities.
11. Only heavy equipment that meets current industry standards for air and noise pollution would be used.
12. Equipment use would be allowed only during limited time frames. Logging activities usually last approximately one month out of the year.
13. Harvesting would not occur too close to private homes.
14. Harvesting would only occur during daylight hours.
15. Harvesting activities are limited to the refuge for each event. Refuge manager may revoke any SUP based on monitoring of activities.
16. All operations in connection with harvesting and removal of timber sold shall be subject to safety and security rules and regulations, including those related to fire, necessary for the protection of government personnel and property, as

the refuge forester or other refuge official may prescribe. The purchaser's timber harvesting operations shall conform to the Occupational Safety and Health Administration's (OSHA's) logging safety standards as prescribed in logging operations in 29 CFR §1910.266, equipment lockout/tag-out standards in 29 CFR §1910.147, and hazardous communication standards in 29 CFR §1910.1200. Copies of these safety standards may be obtained from the OSHA website at <https://www.osha.gov/>.

17. Liability insurance is required of all commercial harvesters.
18. A pre-entry conference between the refuge forester or designated refuge staff and the designated permittee representative would be required before the permittee starts logging operations. The purpose of the pre-entry conference is to minimize conflicts by ensuring that the permittee completely understands what is expected.
19. All refuge wildlife is protected. All reasonable efforts would be made by the permittee to protect wildlife from harm and harassment.
20. All logging would be within the boundaries specified on the map attached to the SUP.
21. When marked trees are to be cut, trees would be cut to leave ground-level paint spots visible after the tree has been cut. All marked trees are to be cut, except for marked leave trees in shelterwood, seed tree, or small open areas as described in the SUP.
22. When only marked or designated trees would be cut, care would be taken to protect all other trees and vegetation from damage. Unmarked trees that are cut or injured through carelessness would result in a fine of \$5 per inch diameter at stump height, or breast height if present.
23. Trees and tops would not be left hanging or supported by any other tree and would be laid down immediately after felling.
24. Tops and logging debris would be lopped to within 6 feet of the ground in all areas 100 feet or less from major roads.
25. All roads, rights-of-way, active agricultural fields, designated openings, ditches, and streams must be kept clear of tops and debris.
26. The permittee is required to repair all damage resulting from operations conducted under the SUP.
27. The skidding of logs greater than 20 feet in length may be prohibited in designated areas.
28. The refuge manager or his authorized representative must approve the location of additional roads. Additional trees removed for roads or loading sites would be marked by the refuge forester and paid for at bid price.

29. Loading of forest products on public roads or shoulders or on regeneration areas is prohibited.
30. Logging would not be permitted when the ground is wet and subject to rutting and severe compaction. The permittee and his employees would do all within their power to prevent rutting and erosion.
31. The permittee and his employees would do all within their power to prevent and suppress forest fires. Fires would be reported immediately to the refuge office.
32. Ownership of all products remaining on a sale area would revert to the government upon termination of the permit.
33. Littering in any manner is a violation of the Code of Federal Regulations. The entire work area would be kept free of all litter.

Justification

The stipulations outlined above would ensure that the use as described is compatible with the purposes of Ernest F. Hollings Ace Basin NWR and would not conflict with the national policy to maintain the refuges' biological diversity, integrity, and environmental health. Based on available science and best professional judgment, the Service has determined that the commercial tree harvesting, in accordance with the stipulations provided here, would not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purposes of the refuges. Commercial tree harvesting could be used to manage, maintain, and restore fish and wildlife habitats.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2035

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Figure 1. Location of 4197 acres of deciduous, evergreen, mixed forests and woody wetlands on Ernest F. Hollings ACE Basin NWR.

