

[Draft] Compatibility Determination for Forest Management, Harris Conservation Easement, Tallahatchie National Wildlife Refuge

Refuge Use Category

Agriculture, Aquaculture, and Silviculture

Refuge Use Type(s)

Tree harvesting (commercial)

Refuge

Tallahatchie NWR (Harris Conservation Easement)

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

Conservation Easements - "for conservation purposes" (Consolidated Farm and Rural Development Act 7 U.S.C. 2002)

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?

No

What is the use?

Tree harvesting (commercial) is being proposed to allow 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, or other fiber products, or firewood.

Is the use a priority public use?

No

Where would the use be conducted?

Commercial tree harvesting would be allowed on the Harris Conservation Easement in Tallahatchie and Grenada County, MS, which is administered by the North Mississippi Refuges Complex (Complex). The Harris Conservation Easement contains approximately 55 acres of pine sawtimber (Figure 1). Tree cutting would occur to improve forest stand health and convert off-site species like loblolly pine to suitable hardwood species.

When would the use be conducted?

Commercial tree harvesting would be specific to the size of the stand being harvested and site-specific conditions (i.e., wet conditions that might restrict operations). Woodcutting will not be allowed during periods when the activity will cause damage to wetland habitats or disturb trust species (including federally listed bat species).

How would the use be conducted?

Commercial tree harvesting would be conducted with the issuance of a Special Use Permit, addressing any concerns specific to the conservation easement. A variety of equipment including chainsaws, feller-bunchers, log skidders, dozers, or excavators would be required to cut and prepare the logs for transport. Access may be by automobile and trailer, pick-up truck, farm tractor, semi-tractor or larger traditional logging equipment. Best Management Practices as defined by the Mississippi Forestry Commission will be implemented to preserve water quality (MFC 2008). The harvested acres would be replanted with site-appropriate hardwood species using current site prep and planting recommendations.

Why is this use being proposed or reevaluated?

Commercial tree harvesting is being proposed to improve wildlife habitat on the Harris Conservation Easement. The lands are privately owned and managed to conserve environmental quality for wildlife. The Conservation Easement language specifies that the US Fish and Wildlife Service has regulatory authority on all vegetation within the easement boundary. In some cases, forest management is desirable to convert off-site woody species to a more suitable cover type. In the case of the Harris Conservation Easement, off-site loblolly pines would be harvested, and hardwood species replanted. FSA easements are assigned to the nearest refuge station and managed based on habitat type and size, as is specified in the North Mississippi Refuges Complex Comprehensive Conservation Plan (CCP; USFWS 2005). The CCP and Environmental Assessment included an analysis of forest management for all lands within the Complex. The draft Forest Habitat Management Plan for the North Mississippi Refuges Complex (USFWS 2004) proposed that FSA properties managed as conservation easements would be subject to forest entry and identified the Harris FSA easement as a priority for inventory and evaluation for forest

management.

Availability of Resources

The resources required to support this use is minimal on behalf of the refuge staff. Issuance of a special use permit and a site visit prior to forestry operations will require one staff approximately 8 hours to accommodate this use at an estimated cost of \$496. Contracting and oversight of a qualified logger would be the responsibility for the landowner.

Anticipated Impacts of the Use

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

The effects and impacts of the proposed use to refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This CD includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered “affected resource”. Geology and soils, air quality, floodplains, wilderness, visitor use and experience, cultural resources, refuge management and operations, and socioeconomics will not be more than negligibly impacted by the action and have been dismissed from further analysis.

Commercial harvesting of timber on refuge lands is anticipated to have a positive impact on wildlife by converting a homogenous mature pine plantation into early successional habitat while creating a diversity of food and cover resources including seeds, soft mast, and scrubby structure. In the long term this managed forest would transition to providing hard mast, cavity trees, and connectivity with other forested habitats in this heavily fragmented landscape (LMVJV 2007). Species benefited would initially include generalists and those associated with scrub-shrub habitats but over time this would transition to species associated with mature hardwood forest (LMVJV 2011). This directly addresses refuge goals 1 and 4 and objectives 1-7 Forest Birds and 4-2 Forest Management (USFWS 2005).

Short-term impacts

Wildlife species would be disturbed during tree harvest activities through the use of heavy equipment, human presence, and alteration of the forest structure; however, this is expected to be a short-term impact. Species potentially impacted include forest-dwelling birds, mammals, and herpetofauna. Once the mature pine stand is removed and hardwoods are established, wildlife would benefit from increased forage and cover in the initial years of the hardwood stand. Following tree planting activities,

wildlife associated with early successional and/or scrub shrub habitats would be positively impacted by the newly created habitat (LMVJV 2007). Primary benefits to wildlife would include an increased diversity of cover, increased soft mast and seed production, and increased browse availability for mammals and birds.

The endangered Northern Long-eared Bat could occur in this area. Endangered species consultation and resulting mitigation, including timing of timber harvest will 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 2023).

Vegetation would be impacted directly through the removal of pine sawtimber and indirectly from the operation of logging equipment on the logging site. Vegetation would also be impacted by the creation of loading decks to stage and load logs for transport off-site. There is also the potential to spread or introduce non-native, invasive plants to the site. Additionally, water quality could temporarily be impacted by removal of the forest cover. However, Best Management Practices prescribed by the Mississippi Forestry Commission would be followed to minimize these impacts (MFC 2008).

Long-term impacts

Vegetation would be significantly impacted by the proposed use. Commercial tree harvest would remove the pine stand on the property. The forest management plan for the easement would provide for reforestation of this site with hardwood species that would have historically occurred on the site. This in turn would provide benefits to local wildlife in the long term, providing hard mast and cover resources for a variety of wildlife species. Reforestation of the site could also help protect water quality in the long term by preventing erosion and siltation in local waterways (LMVJV 2007).

Species assemblages would be expected to shift from those associated with a closed-canopy monoculture stand of loblolly pine to those of a heterogeneous young hardwood stand. With more sunlight reaching the forest floor following harvest, the plant community would transition from shade tolerant species like Chinese privet (*Ligustrum sinense*), elms (*Ulmus spp.*), blueberries (*Vaccinium spp.*), and maples (*Acer spp.*) to less shade tolerant, pioneer species including brambles (*Rubus spp.*), grasses, and light seeded trees such as black willow (*Salix nigra*), sweetgum (*Liquidambar styraciflua*), and sycamore (*Platanus occidentalis*, Baker and Langdon 1990, LMVJV 2007, LMVJV 2011). Wildlife species expected to occur in mature pine stands include late-successional associated bird species such as wood thrush, red-eyed vireo, pine warbler, and Kentucky warbler (Legrand et al. 2007). Many bird species have been shown to decline as stands transition to late seral stage, closed canopy conditions, including Carolina wren, hooded warbler, wood thrush, northern

cardinal, common yellowthroat, eastern towhee, white-eyed vireo, and yellow breasted chat (Hestir and Cain 1999). Avian species expected to occur in an early successional hardwood planting include early successional and scrub-shrub associates such as yellow-breasted chat, eastern towhee, dickcissel, red-winged blackbird, and eastern meadowlark (Twedt et al. 2002). As the hardwood stand matures the species assemblage would gradually shift towards mid- and late-successional associated species, although the stand size does limit its value for forest interior breeding birds (LMVJV 2007). In addition to a shift in use by breeding birds, the habitat would be improved for many resident species like white-tailed deer, wild turkey, rabbits, and herpetofauna which would benefit from increased structural and species diversity of the plant community (LMVJV 2011).

Public Review and Comment

The draft compatibility determination will be available for public review and comment for 14 calendar days from February 12 to February 26. The public will be made aware of this comment opportunity through newspapers. A hard copy of this document will be posted at the Refuge Headquarters at 2776 Sunset Drive, Grenada, MS 38901. It will be made available electronically on the refuge website (www.fws.gov/refuge/tallahatchie). 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.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. Mississippi's Best Management Practices for Forestry will be followed as per Special Use Permit language (MFC 2008).
2. A cultural resources review may be required to be compliant with the National Historic Preservation Act and / or Archaeological Resources Protection Act. If any unintended discoveries of cultural or historic artifacts result from this action, activities will be halted immediately pending a thorough consultation with the Regional Archeologist.
3. A Special Use Permit must be issued for this use that specifies dates of implementation, timing and other specifics required to determine the implementation will adhere to refuge guidelines.
4. An Intra-Service Biological Evaluation may be completed in compliance with Section 7 of the Endangered Species Act prior to these activities occurring.

Harvest timing may be altered to mitigate impacts to federally listed species.

Justification

The stipulations outlined above would help ensure that the use is compatible at the Harris Conservation Easement. Commercial tree harvesting, as outlined in this compatibility determination, would not conflict with the national policy to maintain the biological diversity, integrity, and environmental health of the refuge. Based on available science and best professional judgement, the Service has determined that commercial tree harvesting at the Harris Conservation Easement, 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 purpose of the refuge. Rather, appropriate and compatible commercial tree harvesting would be the use through which conservation easements can be converted to a more suitable cover type.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2034

Literature Cited/References

J. Baker and O. Gordon Langdon. 1990. *Pinus taeda* L. Loblolly Pine. Pp. 497-512 *In* Burns, R.M. and B.H. Honkala (eds.). 1990 *Silvics of North America, Volume 1, Conifers*. U.S. Department of Agriculture, Forest Service, Agriculture Handbook 654, Washington, D.C. Pp. 675. Accessed January 21, 2024.

https://www.srs.fs.usda.gov/pubs/misc/ag_654/volume_1/pinus/taeda.htm

J.L. Hestir and M.D. Cain. 1999. Bird diversity and composition in even-aged loblolly pine stands relative to emergence of 13-year periodical cicadas and vegetation structure. USDA, Southern Research Station Pages. In: Tenth Biennial Southern Silvicultural Research Conference Shreveport, LA 243-248.

Holly G. Legrand, M.J. Chamberlain, and E. B. Moser. 2007. Diversity and abundance of breeding birds in a managed loblolly pine forest in Louisiana. *The American Midland Naturalist*. 157(2): 329-344. [https://doi.org/10.1674/0003-0031\(2007\)157\[329:DAAOBB\]2.0.CO;2](https://doi.org/10.1674/0003-0031(2007)157[329:DAAOBB]2.0.CO;2)

Lower Mississippi Valley Joint Venture (LMVJV) Forest Resource Conservation Working Group (2007). Restoration, Management, and Monitoring of Forest

Resources in the Mississippi Alluvial Valley: Recommendations for Enhancing Wildlife Habitat. Edited by R. Wilson, K. Ribbeck, S. King, and D. Twedt.

LMVJV Forest Resource Conservation Working Group. 2011. Wildlife Forestry in Bottomland Hardwoods: Desired Forest Conditions for Wild Turkey, White-tailed Deer and Other Wildlife [Fact Sheet].

<https://www.mdwfp.com/media/4034/wildlifeforestryinbottomlandhardwoods.pdf>

Daniel J. Twedt, R. Randy Wilson, Jackie L. Henne-Kerr, and david a. Grosshuesch. 2002. Avian response to bottomland hardwood reforestation: the first 10 years. Restoration Ecology. 10(4): 645-655. <https://doi.org/10.1046/j.1526-100X.2002.01045.x>

Mississippi Forestry Commission (MFC). 2008. Mississippi's Best Management Practices Fourth Edition. https://www.mfc.ms.gov/wp-content/uploads/2020/03/Entire_bmp_2008-7-24_2.pdf

USFWS. 2004. Draft Forest Habitat Management Plan for North Mississippi Refuges Complex.

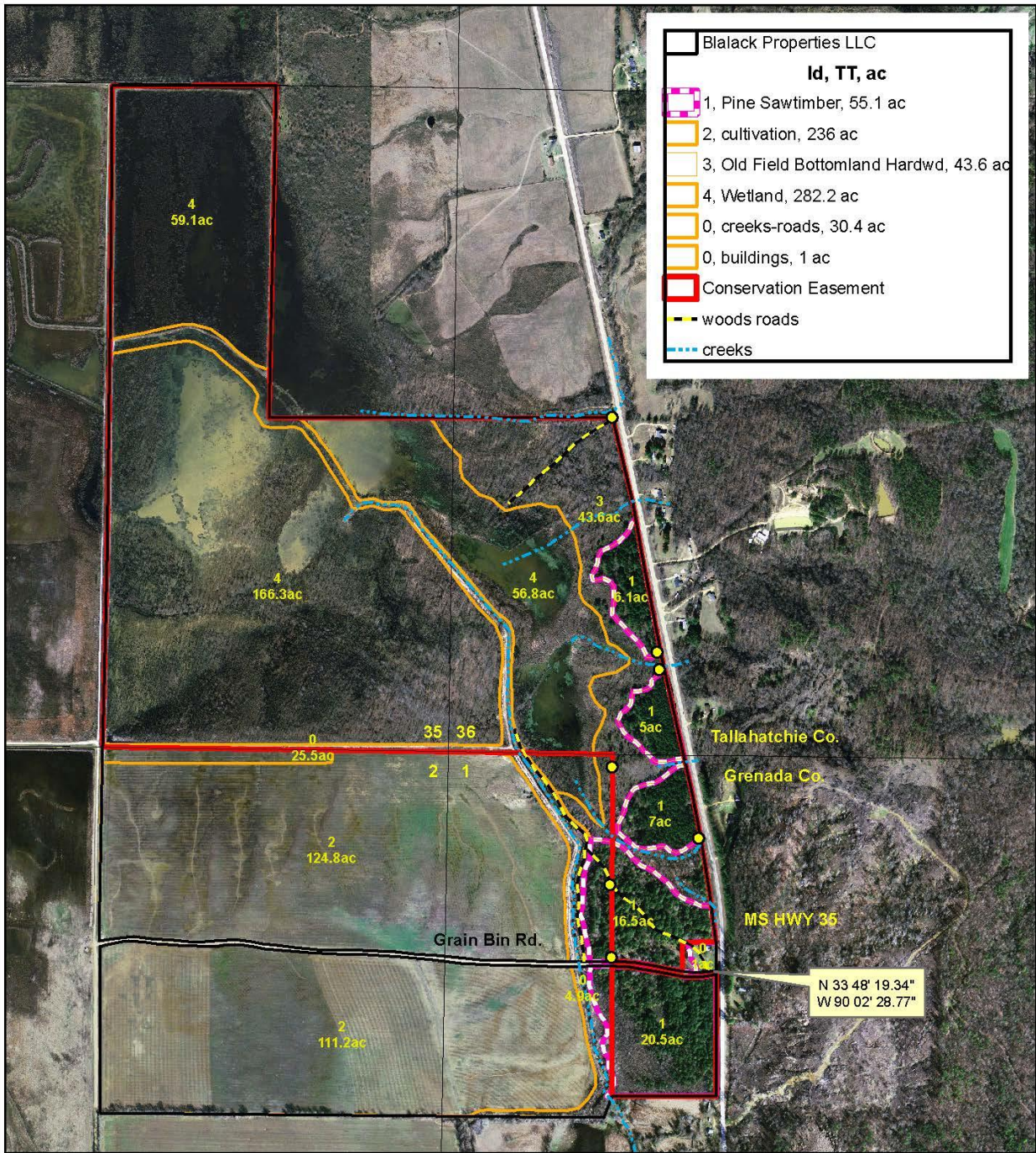
USFWS. 2005. North Mississippi Refuges Complex Comprehensive Conservation Plan and Environmental Assessment.

USFWS. 2023. Interim Voluntary Guidance for the Northern-Log-eared Bat: Forest Habitat Modification.

https://www.fws.gov/sites/default/files/documents/Interim%20Guidance%20for%20Habitat%20Modification%20Projects_6Mar23.pdf

Figure

Black Properties LLC
 Pt of Secs 35,36 T23N R2E Tallahatchie Co. MS
 Pt of Secs 1,2 T22N R2E Grenada Co.,MS



Scale 1:12000 (1"= 1000')
 2006 winter imagery

Prepared by: Canale Forest Mgt. Co.
 P.O. Box 1786
 Oxford, MS 38655
 (662)-236-5435

Figure 1. Harris Conservation Easement stand map, showing pine sawtimber to be commercially harvested.