Draft Compatibility Determination

Title

Draft Compatibility Determination for Commercial Tree Harvesting on Dale Bumpers White River National Wildlife Refuge, Arkansas County, Desha County, Monroe County, Phillips County, Arkansas

Refuge Use Category

Agriculture, Aquaculture, and Silviculture

Refuge Use Type(s)

Tree harvesting (commercial)

Refuge

Dale Bumpers White River National Wildlife Refuge (NWR)

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

White River Migratory Waterfowl Refuge was established by Executive Order 7173 issued by President Franklin D. Roosevelt on September 5, 1935. The purpose of the refuge was to protect and conserve migratory birds and other wildlife resources in accordance with the following laws:

"…as a refuge and breeding ground for migratory birds and other wildlife." (Executive Order 7173);

"…for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." 16 U.S.C. 715d (Migratory Bird Conservation Act);

"… shall be administered by him [the Secretary of the Interior] directly or in accordance with cooperative agreements and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon…' (Fish and Wildlife Coordination Act); and

"…suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species …", 16 U.S.C. 460k-2 (Refuge Recreation Act [16 U.S.C. 460k-460k-4], as amended)

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System (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 compatibility determination (CD) re-evaluates and replaces the 2012 CD for Compatibility Determination for Commercial Tree Harvesting on Dale Bumpers White River National Wildlife Refuge. Commercial Tree Harvesting has been conducted on the refuge since 1957. Commercial tree harvesting was evaluated in conjunction with the Dale Bumpers White River NWR Comprehensive Conservation Plan, associated Environmental Assessment, Finding of No Significant Impact and Compatibility Determination (CCP/EA.FONSI; USFWS 2012) and found to be compatible. The use is being reevaluated to satisfy the U.S. Fish and Wildlife Service's policy (603 FW 2.11 H.) to reevaluate non-priority public uses every ten years.

What is the use?

Commercial tree harvesting is a refuge management economic use that involves the cutting and removal of trees by various techniques such a selective cuts, patch cuts, and variable retention thinning. The trees removed may be sold for commercial use as a forest product, meeting the definition of a refuge management economic activity under 603 FW 2.6 N, USFWS 2000.

Commercial tree harvest for forest management would primarily be used to enhance, diversify, and restore forest structure and composition to create and improve wildlife habitat, thus supporting the refuge's purposes and goals to manage and improve habitat for priority wildlife species.

This use includes a variety of silvicultural practices, such as (1) pre-commercial and commercial thinning and release cuttings to remove logs or pulpwood, (2) regeneration cuts such as seed tree, selection, and shelterwood cuts, which would yield products ranging from pulpwood to saw timber, and (3) salvage cuts performed as a result of storm, insect, or disease damage, which could result in the sale of any or all of the above mentioned forest products.

Is the use a priority public use?

No

Where would the use be conducted?

Dale Bumpers White River National Wildlife refuge is 164,000 acres located in Central East Arkansas along the White River. Major landcover types found on the refuge include Bottomland hardwoods, croplands, ponds, swamps, sloughs, impoundments, streams, and open water. When forests are outside biologically established desired conditions, commercial tree harvesting may be deemed a necessary option to restore

habitats toward desired forest conditions to support resources of concern. This use may occur in any forested areas on the refuge outside of established wilderness areas and Research Natural Areas (See Spatial Habitat Management Plan (SHMP) USFWS 2022).

When would the use be conducted?

Commercial tree harvesting could occur year-round during daylight hours. Activities such as planning and inventorying, tree marking, harvesting, harvest monitoring, and other tasks could occur at various times throughout the year and as outlined in the forest management prescription. Harvesting generally occurs during dry periods but depends on environmental conditions such as site characteristics, resources of concern, and purpose of the harvest.

All forest management would occur at designated times to minimize unwanted impacts on resources (e.g., erosion, soil compaction, or wildlife disturbance) while maximizing the desired silvicultural results. Management objectives would focus on thinning closed canopy bottomland hardwood forests and bringing forest metrics in line with desired forest conditions outlined in *Restoration, Management, and Monitoring of Forest Resources in the Mississippi Alluvial Valley: Recommendations for Enhancing Wildlife Habita*t (LMVJV Forest Resource Conservation Working Group et al. 2007).

How would the use be conducted?

Commercial tree harvesting on the refuge would be conducted through a structured and supervised process to ensure the protection of the natural resources. Prospective bidders would be selected based on their demonstrated ability and willingness to comply with established operating procedures, conservation measures, and best management practices. Refuge staff would review bids to ensure the selected bidder meets the technical standards necessary for responsible harvesting operations.

The winning bidder would be issued a Special Use Permit (SUP) authorizing the timber harvesting operations. The SUP would include site-specific operating procedures, temporal restrictions based on environmental conditions, Best Management Practices (BMP) requirements, equipment limitations/modifications, and any other conservation measures needed to safeguard the resource.

Before any commercial tree harvest operation is initiated, a step-down forest management prescription would be developed. This prescription would identify the refuge's resources of concern, assess the current forest conditions, outline desired future conditions, and describe the silvicultural treatments required to achieve the conditions. Additionally, a National Historic Preservation Act Section 106 review and an Endangered Species Act Section 7 intra service consultation would be completed prior to the approval of the prescription.

Once completed the SUP would incorporate all required stipulations to ensure the operations align with the refuge planning documents such as the CCP, HMP, and the Forest Management Prescription. It would include all conservation measures and BMPs needed to ensure compatibility with the mission and purpose of the refuge. The Refuge Manager and refuge foresters would oversee implementation to ensure all activities remain consistent with refuge objectives.

Why is this use being proposed or reevaluated?

This use is being reevaluated due to the renewal period pursuant to Service policy (603 FW 2.11 H., USFWS 2000). In addition, commercial timber harvest for forest management is prompted by Service policy to ensure that the biological integrity, diversity, and environmental health of the Refuge System is maintained (601 FW 3, USFWS 2006). Commercial harvest is the preferred method to manage refuge forests safely and efficiently in a cost-effective manner. Commercial timber harvest for forest management is necessary to maintain, restore, and create habitat for wildlife species associated with bottomland hardwood and other priority species as listed in the refuge's Comprehensive Conservation Plan and the SHSP (USFWS 2012 and 2022).

Availability of Resources

To comply with the Refuge Recreation Act (Public Law 87-714), the Refuge Manager must determine whether sufficient resources—financial, staffing, facilities, or other infrastructure—are available to support the proposed use without materially interfering with the refuge purpose(s) or the mission of the National Wildlife Refuge System. This determination should be informed by a review of current capacity and, where applicable, the refuge's Comprehensive Conservation Plan (CCP).

Assessment of current resources and capacity

The refuge manager, in coordination with the regional forester and other supporting staff would oversee all forest-related activities associated with commercial tree harvesting. The following cost categories described the resources required to plan, administer, and monitor forest management operations at Dale Bumpers White River NWR. These costs may vary depending upon the number of acres being treated annually.

Planning Costs: This is a one-time investment of approximately $10,000 is required to develop the forest management plan and prepare associated documents before management activities begin. These costs represent the upfront planning, coordination, and documentation needed to guide forest management actions and ensure compliance with applicable laws, regulations, and policies.

Marking Paint: These annual costs of approximately $10,000 support the tools, supplies, and equipment needed for ongoing timber marking and field work. This

includes paint, flagging, and painting equipment used by refuge staff or contractors to mark stand boundaries, marking individual trees, and conduct operational layouts.

Forest Inventory and Timber Marking: This cost of $24,500 captures the labor and technical effort associated with forest inventory and timber marking. Forest Inventory provides stand-level data for volume estimation, species composition, and treatment design, while timber marking defines the specific tree to be removed or retained. These activities require trained forestry personnel and significant field time and therefore represent the largest recurring annual cost of administering forest management on the refuge.

Monitoring: Monitoring is a $5000 investment and includes post-harvest inspection, compliance checks with special use permit stipulations, evaluation of BMP implementation, and assessment of habitat conditions following treatment. These efforts require staff time to ensure operations are completed correctly, that management objectives were met, and forest condition are progressing toward desired future outcomes.

Offsetting Revenues: Dale Bumpers White River NWR currently generates average annual revenues of approximately $500,000 from commercial timber sales. Although commercial timber harvests are administered as a habitat management tool, the program generates significant revenue through the sale of forest products. These receipts are deposited into the national Refuge Revenue Sharing account that pays counties in lieu of taxes and does not directly benefit the refuge. The gross revenue produced annually far exceeds the refuge's annual operating expenses for planning, marking, monitoring, and administering forest management activities. Additionally, the Refuge Revenue Sharing code (16 USC 715S) authorizes the Secretary to pay any necessary expenses incurred in connection with the revenue producing activities.

Table 1. Costs to Administer and Manage Commercial Tree Harvests.

Category and Itemization	**One-time Cost**	**Recurring Annual Expenses**
Develop Plan/NEPA document/opening package	$10,000	
Marking Paint and Forestry Equipment		10,000
Timber Cruising and Timber Marking		24,500
Monitoring		$5,000
Total one-time expenses	**$10,000**	

Total recurring annual expenses		$39,500
Offsetting revenues		$500,000
Total expenses	$10,000	-$460,500

Commercial Tree Harvesting occurs through the use of existing staff, funding, equipment, and facilities (Table 1). Existing resources such as permit development and project monitoring are made possible through extensive help from staff and partners.

Refuge staff are needed to administer activities such as pre-work coordination, on-site monitoring, post-work inspection, and to ensure that the stipulations are met, and to monitor and evaluate impacts of the refuge use.

Impacts of changes to resources and capacity

The availability of resources is subject to change and the level of use provided may vary based on current staffing, partner support, funding, or infrastructure conditions. Costs may increase over time, in relation to changes in the costs for equipment, maintaining facilities, etc. A substantial increase to the number of requests may also create the need for additional resources to administer the use. The Refuge Manager would use sound professional judgment in evaluating whether the refuge or its partners can develop, operate, and maintain the use in a compatible manner.

For other refuge uses, if resource conditions shift such that the refuge can no longer sustain the use in a compatible manner, the Refuge Manager may modify or suspend the use pursuant to 50 CFR 25.21. The public would be notified of any changes to refuge uses, including temporary modification or suspension, re-evaluation of compatibility and/or discontinuing of refuge uses.

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 an “affected resource”. Air quality, floodplains, cultural resources, refuge management and operations, and socioeconomics would not be more than negligibly impacted by the action and have been dismissed from further analyses. Cultural resources were reviewed and no impacts were identified.

Although not a priority public use, commercial tree harvesting can contribute to the mission of the Refuge System when used to support wildlife and their habitats. For example, commercial tree harvesting creates gaps in the forest canopy, allowing light to reach the forest floor and stimulating growth in the understory. This can improve the habitats of various wildlife species. Commercial tree harvesting would allow the Service to implement management techniques that emulate natural disturbance regimes, such as ice and windstorms, ensuring forests remain in optimal condition for wildlife. Optimal forest conditions support priority public uses, such as wildlife observation and photography, by creating suitable habitats for wildlife and attracting various animals to the refuge.

Commercial forest management activities would be designed to minimize adverse impacts on resources (e.g., erosion, rutting, wildlife disturbance), while maximizing the desired silvicultural results, such as forest health improvements and native understory regeneration to benefit wildlife.

Commercial tree harvesting is an existing use on the refuge and was previously analyzed and approved in the 2012 CCP, Environmental Assessment, and Finding of No Significant Impact (EA/FONSI). The use was previously found not to 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 compatible (USFWS 2012).

The CCP/EA/FONSI (USFWS 2012) addressed the direct, indirect, short-term, and long-term impacts of the use on the refuge. The use and environmental conditions have not changed substantially since that analysis.

No significant beneficial or adverse short-term, long-term, or reasonably foreseeable impacts are associated with non-commercial tree harvesting on the refuge as outlined in this Draft CD. The impacts analysis from the CCP/EA/FONSI (USFWS 2012) associated with the use is incorporated herein by reference; only summary and updated impacts are provided in this CD.

Short-term impacts

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 the Arkansas Forestry Commission. Timber harvesting would occur during dry periods to reduce soil erosion, compaction, and rutting. Active forest management would occur when site-specific soil conditions are appropriate.

Forest management operations may have negative impacts on both water quantity and quality. Data from experimental forested watersheds in the eastern United States indicate that the leaching of nutrients after timber harvesting, especially clear

cutting, tends to increase (Bormann et al. 1968; Bormann et al. 1974), and the increases in stream water temperature are highest where revegetation of cutover areas is delayed (deMaynadier and Hunter 1995; Cullen 2001). These factors may have negative effects on stream organisms, including fish, invertebrates, and amphibians (Campbell and Doeg 1989). Maintaining forested buffers near streams and other aquatic resources minimizes impacts on water resources and water quality (Osborne and Kovacic 1993; Castelle et al. 1994; Wilkerson et al. 2006; Bennett 2010). Road improvements, skid trail planning, harvest operations, and interaction with surface and groundwater hydrology would follow best management practices outlined by Arkansas Forestry Commission to minimize water quality impacts. In addition, the refuge implements BMPs that avoid disturbance to streams and other aquatic resources by maintaining protective riparian buffers and restricting equipment access within sensitive areas. Additionally, clearcuts are not typically used as a standard silvicultural treatment on the refuge; however, small, purpose- driven regeneration openings (typically 5–7 acres) may be implemented when habitat conditions or silvicultural objectives require early-successional structure.

Commercial tree harvesting for forest management can have several localized and broader impacts on wildlife-related components of forests, including damage to understory vegetation (Scheller and Mladenoff 2002), alterations of microhabitat environments (deMaynadier and Hunter 1995), and changes in the abundance and type of coarse woody debris (deMaynadier and Hunter 1995; Siitonen 2001).

Harvesting may also leave the remaining trees more susceptible to wind throw (Ruel 1995), facilitate the spread of invasive plants (Sakai et al. 2001), and temporarily disturb wildlife (DeMaynadier and Hunter 1995, Campbell et al. 2007; Holmes and Pitt 2007). Impacts would be minimized through careful planning and implementation. Selective logging methods, equipment with reduced ground disturbing capabilities, and time of year and soil-moisture restrictions would be implemented to minimize disturbance to wildlife and understory vegetation. Pre-harvest multi-resource surveys, strategic layout of skid trails, and clear designation of no-cut zones would also help to protect the wildlife and habitat.

Tree harvesting has the potential to disturb and displace bats during and after harvesting operations. Specifically, Northern long-eared bat (NLEB) and Tri-colored bat (TCB) are tree roosting bats and would be considered during these proposed operations. Tree harvesting operations such as thinning is likely beneficial to forest-dwelling bats by reducing stem density which can increase foraging efficiency. However, when removing trees from suitable bat habitat, there is the immediate risk of removing trees utilized by bats. The retention of snags and cavity trees as part of the harvest help to reduce adverse effects and long-term negative impacts and this practice should be beneficial to tree roosting bats. This and other best forest management habitat practices would be implemented to minimize adverse impacts to bats (USFWS, 2024a). Therefore, tree harvesting is not likely to adversely affect bat

species.

While Dale Bumpers White River NWR is in the general range of NLEB, this species has not been detected on the refuge. Based on this current scenario, NLEB are not likely to be adversely affected by timber harvesting on the refuge. TCB is common and has been detected on the refuge. The TCB is a migratory species that may remain active year-round in Arkansas. The Refuge would either abide by the regional programmatic biological opinion covering forest dwelling bat or conduct a separate ESA section 7 consultation as necessary.

Thirteen federally threatened and endangered species (including two proposed) are known to or may potentially occur on the refuge; however, this use is not expected to conflict with the recovery or protection of these species, and there have been no reported or documented issues. Federally listed species documented or expected to occur within the acquisition boundary of the refuge include the Northern long-eared bat (*Myotis septentrionalis*) (endangered); tricolored bat (*Perimyotis subflavus*) (proposed endangered); Eastern black rail (*Laterallus jamaicensis jamaicensis*) (threatened); ivory-billed woodpecker (*Campephilus principalis*) (endangered); piping plover (*Charadrius melodus*) (threatened); Red-cockaded Woodpecker (*Dryobates borealis*) (endangered); Rufa red knot (*Calidris canutus rufa*) (threatened); alligator snapping turtle (*Macrochelys temminckii*) (proposed threatened); fat pocketbook (*Potamilus capax*) (endangered); pink mucket (*Lampsilis abrupta*) (endangered); rabbitsfoot (*Quadrula cylindrica cylindrica*) (threatened); monarch butterfly (*Danaus plexippus*) (candidate); and pondberry (*Lindera melissifolia*) (endangered). No critical habitat is designated within the refuge. Temporary disturbance to these species may result from land management activities. A Section 7 consultation will be completed prior to implementation of any forest management prescription.

Tree harvesting can impact vegetation and soil. Harvesting a tree directly removes biomass, and harvesting may leave remaining trees more susceptible to wind throw (Ruel 1995). Further, tree harvesting can facilitate the spread of invasive plants (Sakai et al. 2001). Removing trees from the forest can result in fewer large-diameter logs and detritus accumulating on the ground, which could negatively impact plants, soil, amphibians, invertebrates, and other wildlife species that inhabit the forest floor.

Heavy equipment could be required for tree harvesting, depending on the magnitude of the harvesting operation. Heavy equipment can damage uncut trees, creating entry points for invasion by insects or disease (Nichols et al. 1994). The construction and maintenance of roads and landings and heavy equipment operation may impact soil, causing rutting and erosion (Helfrich et al. 1998, Wiest 1998). The consequences of compacted soil include increased soil temperatures, reduced moisture (Marion et al. 2016), reduced soil biota (Liddle 1997), and resistance to seed germination and penetration by plant roots (Alessa and Earnhart 2000). Further, heavy equipment can introduce or spread invasive species and crush small animals. Best management

practices would be used to protect refuge resources from being damaged by heavy equipment mitigating many of these issues.

The noise associated with tree harvesting could disturb visitors and impact their safety. To ensure visitor safety, areas of the refuge where tree harvesting occurs may be temporarily closed.

Long-term impacts

Timber thinning produces many long-term outcomes both beneficial and negative, that shape wildlife communities, forest structure, soil function, hydrology, invasive species risk, and public use. When implemented under ecological forestry principles, the landscape scale effects tend to move bottomland hardwood systems toward greater structural diversity and ecological function, while acknowledging tradeoffs among species and resources (Bauhus et al. 2009; LMVJV 2007; Twedt & Wilson 2017).

Over the long term, thinning increases vertical and horizontal structural diversity by opening canopies and sustaining understory and midstory layers that provide forage and cover for many species (MDWFP 2024; Hossain et al. 2021). Treated bottomland hardwood stands have shown greater community-wide bird diversity than untreated stands, particularly for species associated with early successional or semi-open conditions (Twedt & Somershoe 2009). These responses are consistent with Lower Mississippi Valley guidance that prioritize a landscape mosaic of forest conditions to support forest dependent birds and waterfowl (MDWFP 2024).

Species dependent on mature, closed canopy forest types may decline in thinned stands, and changes in coarse wood debris or snag availability can affect cavity dependent species (deMaynadier & Hunter 1995; Siitonen 2001; Scheller & Mladenoff 2004). Because no single stand can provide optimal long-term habitat for all species thinning inevitably favors those species that thrive in early open canopy habitats. However; the refuge would mitigate any loss of habitat types by including “differed” areas in our treated stands that will receive no treatment. This builds in habitat diversity into the treated stands insuring habitat variability.

As these stands gradually return to more closed-canopy conditions over the following decades, they contribute to a landscape-scale gradient of forest structures that contrasts naturally with freshly thinned areas. Because the refuge encompasses such a large acreage, only a portion of stands will be treated at any one time, ensuring that unthinned, mid-stage, and newly treated stands coexist across the landscape. This spatial heterogeneity reinforces the need for rotational, variable-retention thinning and provides the broad range of successional conditions required to support diverse wildlife communities (LMVJV 2007; Twedt & Wilson 2017).

Whole tree harvesting and poorly timed operations can lead to long lasting changes in soil chemistry, including increased acidity, altered nutrient concentrations, and reduced saturation (Vanguelova et al. 2010; Brandtberg & Olsson 2012). Post harvest disturbance may elevate long term export of particulate matter and nutrients,

especially in hydric or easily erodible soils. The refuge would mitigate these effects by scheduling operations during the dry season and avoiding sensitive soils.

Long-term watershed responses to harvesting include increased sediment and nutrient export and documented rises in total mercury and methylmercury (Ahtiainen & Huttunen 1999; Laurén et al. 2005; Miettinen et al. 2012; Munthe & Hultberg 2004; Porvari et al. 2003; Sørensen et al. 2009). These impacts are moderated by forestry BMPs such as maintaining forested buffers, careful skid-trail and crossing design, limiting new road construction, using existing roads, and decommissioning temporary roads post-treatment.

Heavy equipment can introduce or spread invasive plants, leading to long-term alterations in composition, diversity, and resource availability. Persistent oversight and equipment cleaning are needed to reduce these possible impacts (Marion et al. 2006; Anderson et al. 2015; Eiswerth et al. 2005; Davies & Sheley 2007).

Thinning operations will create a short-term decrease in the aesthetic qualities of the stand. However, in the long run, thinned forests often host more visible and diverse wildlife, improving opportunities for observation, photography, interpretation, hunting, and fishing.

Public Review and Comment

The draft compatibility determination would be made available for public review and comment for 14 days, from July 20 through August 3 and would be posted on the Refuge Website (https://www.fws.gov/refuge/ dale-bumpers-white-river) Additionally, a hard copy of this document would be posted at the Refuge Headquarters and Visitor Center at 57 S CC Camp Road, Saint Charles, AR during the same period. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period would be addressed in the final determination.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. All commercial forest management operations would be subject to stipulations set forth in a Special Use Permit (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 Dale Bumpers White River 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, methods allowed, and any 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 specified.
6. To minimize impacts and to ensure the continued compatibility of the forest harvesting use, the Service uses the SHMP (USFWS 2022) to guide the development of specific forest management prescriptions which are then used to mark targeted trees, select a commercial bidder, and issue an SUP for the specific tree harvesting site and action.
7. Commercial harvesters must adhere to all SUP conditions and restrictions.
8. The Service may revoke or modify any SUP to address resource concerns, unacceptable impacts, non-compliance, or public safety.
9. Commercial harvesters must adhere to the Arkansas Best Management Practices for Water Quality Protection (Arkansas Department of Agriculture – Forestry Division 2023).
10. To minimize adverse impacts, the existing network of roads and trails would be used for timber activities where possible.
11. Equipment use would be allowed only during specified time frames.
12. Harvesting would only occur during daylight hours.
13. Harvesting operations can occur only within the refuge boundaries.
14. All harvesting operations and timber removal 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 outlined by the Refuge Manager or designated official. 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 lock- out/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/.
15. Liability insurance is required of all commercial harvesters.
16. A pre-entry conference between the Refuge Manager or designated refuge staff and the permittee or designated representative would be required before

logging operations begin. The purpose of the pre-entry conference is to minimize conflicts by ensuring that the permittee completely understands what is expected.

17. All wildlife on the refuge are protected. All reasonable efforts would be made by the permittee to protect wildlife from harm and harassment.
18. All logging would be within the boundaries specified on the map attached to the SUP.
19. 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.
20. 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.
21. Trees and tops would not be left hanging or supported by any other tree and would be laid down immediately after felling.
22. Tops and logging debris would be lopped to within 6 feet of the ground in all areas 100 feet or less from major roads.
23. All roads, rights-of-way, active agricultural fields, designated openings, ditches, and streams must be kept clear of tops and debris.
24. The permittee is required to repair all damages resulting from harvesting operations conducted under the SUP.
25. The Refuge Manager or designated official must approve the location of additional roads. Additional trees removed for roads or loading sites would be marked by designated refuge staff and paid for at bid price.
26. Loading of forest products on public roads or shoulders or on regeneration areas is prohibited.
27. Logging would not be permitted when the ground is wet and subject to rutting and severe compaction. The permittee and employees would do all within their power to prevent rutting and erosion.
28. Ownership of all products remaining on a sale area would revert to the government upon termination of the permit.
29. 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 help ensure that the use is compatible at Dale

Bumpers White River NWR. 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 the Commercial Tree Harvesting at Dale Bumpers White River NWR 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 Dale Bumpers White River NWR. Rather, appropriate and compatible Commercial Tree Harvesting would be the use of the Dale Bumpers White River NWR through which the public can develop an appreciation for wildlife and wild lands.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2036

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