Rob Farrell
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COMMONWEALTH of VIRGINIA

Department of Forestry

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3/21/21

Tract Number: RCB20050

Whites Farm

Dear VMI:

Please find within your *Virginia State-Owned Lands Management Plan* for your agency's property located in Rockbridge County. It was my pleasure to prepare this plan for you knowing that you have a true interest in the good stewardship and active management of the natural resources.

In this plan, there are two basic components. The first is a management plan based upon your agency objectives for managing the property. All of the recommendations within this plan are for consideration, but I believe that they will help you achieve both long- and short-term goals for the property. This plan should be reviewed and updated every 10 years.

I trust that you will find this plan to be informative and useful as you actively manage your agency's natural resources. If you have any questions or comments please feel free to contact me at any time.

Sincerely,

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Virginia State-Owned Lands Management Plan

ABOUT THIS PLAN

This State-Owned Lands Management Plan was developed to help guide you in the active management of the natural resources on the property. The plan is based upon the objectives you identified as being important to the agency. All of the management recommendations are for consideration. The stand data table figures in this plan are for planning purposes ONLY and not intended for making economic decisions where more detailed information would be required.

PRIMARY GOALS THAT WERE IDENTIFIED FOR MANAGING THE PROPERTY

1. Harvesting Timber for income
2. Maintain Forest Health
3. Improved Wildlife Habitat

INTRODUCTION

This multiple-use forest management plan covers the examination of approximately 24 acres of forestland in Rockbridge County, Virginia. The management recommendations, given on the following pages, were developed for each specific parcel on the property. Boundaries and acres are only estimates derived from aerial photographs. The tract map is attached, allowing you to see the map as you read through the plan.

TRACT LOCATION

Located off of 708 Furrs Mill rd. Drive through the gate and to the back of the fields to access the tract.

PROPERTY OVERVIEW

Whites Farm is located at the back end of a farm field located at 708 Furrs Mill Rd. The terrain quickly becomes steep as it goes down towards the Maury River, becoming cliffs in some places.

STAND 1

Descriptions and Recommendations: **Harvest timber in areas where it is possible to do so. Clearcut if intending to sell the property. Thin if intending to keep the property.**

Acres: 23.2

Forest Type: Mixed Hardwood

Species Present: Yellow-poplar, Black Walnut, Hickory, Red Maple, Sugar Maple, Black Cherry, Northern Red Oak, White Oak

Age: Unknown

Stand History: Unknown

Size: Trees in this stand had an average diameter of 13" Largest trees were over 20 inches in diameter.

Tree Quality: Tree quality is very good in this stand. There are favorable timber species such as yellow-poplar that have good form.

Stocking/Density: The average basal area is 150 ft^2/acre which is considered overstocked

Growth Rate & Vigor: Growth rate and vigor are good in this stand

Site Quality & Soils: There are three main soil types in this stand Frederick Caneyville Complex, Shottower Cobbly Fine Sandy Loam, and Rock Outcrop Opequon Complex. Detailed information about each soil can be found below.

Frederick Caneyville Complex

- *Slope:* 15 to 35 percent
- *Depth to restrictive feature:* 20 to 40 inches to lithic bedrock
- *Drainage class:* Well drained
- *Runoff class:* High
- *Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)
- *Depth to water table:* More than 80 inches
- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Available water capacity:* Low (about 3.5 inches)

Shottower Cobbly Fine Sandy Loam

- *Slope:* 15 to 30 percent
- *Depth to restrictive feature:* More than 80 inches
- *Drainage class:* Well drained
- *Runoff class:* High
- *Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.57 to 1.98 in/hr)

- *Depth to water table:* More than 80 inches
- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Available water capacity:* Low (about 5.9 inches)

Rock Crop Opequon Complex

- *Slope:* 55 to 100 percent
- *Depth to restrictive feature:* 12 to 20 inches to lithic bedrock
- *Drainage class:* Well drained
- *Runoff class:* Very high
- *Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.57 in/hr)
- *Depth to water table:* More than 80 inches
- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Available water capacity:* Very low (about 1.6 inches)

Aspect & Topography: This stand has a mostly Northwestern facing slope that becomes steeper as you move towards the Maury River, eventually turning into a cliff face

Water Resources: Maury River located on the Northern side of the stand

Invasive Species: Autumn olive and Ailanthus mildly present.

Wildlife Habitat: This stand has poor to average wildlife habitat. There is not much vegetation on the forest floor and the overstory species do not provide the highest quality food source compared to other tree species native to the area.

Recreation/Aesthetics: This stand has low recreational value. It is difficult to access due to the fact that you must pass through an adjacent landowners fields. There is also a barbed wire fence along the Southern end of the property that makes access slightly difficult.

Cultural Resources: None Observed

T&E Species Present: Running a report on threatened and endangered species that are present in the area came up with several species that are federally and state endangered. The list is as follows:

Federal & State Endangered – James spinymussel

Federal & State Threatened – Northern long eared bat, yellow lance State Endangered – Little brown bat, Tri color bat, Rubble coil, Shaggy Coil

State Threatened – peregrine falcon, Loggerhead Shrike, Appalachian gizzard skipper, Green Floater, migrant loggerhead shrike

Federal Protected & State Threatened – Atlantic pigtoe

Before doing any management activities you should ensure that these species will not be threatened by the activity.

Fire Risk: This stand has low to mild fire risk

Unique Natural Features: None observed

Recommendations: I would recommend working with a logger to harvest the timber off this stand. There is good quality sawtimber sized yellow poplar logs in great abundance on this stand. You stated previously that you weren't sure if VMI would be retaining this property long term. If this is the case I would recommend doing a clearcut harvest before selling the property. Most of the stand should be able to be clearcut except the Northern most ends due to the steep terrain.

If VMI intends to keep the property long term I would recommend having a logger come in and thin the stand to a basal area of ~80 ft^2/acre. Due to the fact that there is a large presence of yellow-poplar in the overstory I would expect any natural regeneration of this stand to be a majority yellow-poplar. This will be easy to manage going forward because yellow-poplar naturally likes to grow tall and straight, and does not require much site maintenance to reach the overstory eventually. If the thinning is done then I would also recommend that you contact a forester pre harvest to come and mark trees to be left. This will ensure that a logger isn't removing all the best trees and is keeping some of the good genetics within the stand.

CULTURAL AND HISTORIC RESOURCES

Cultural resources refer to landscapes, structures, archeological artifacts and vegetation that represent a culture or society of historic value. Federal and state laws protect some archeological, cultural and historic sites from disturbances, destruction or removal. It is critical to understand where such sites may be located prior to ground-disturbing forest management activities.

Historic and cultural resources are a vital link to past land-use practices in Virginia. While no sites were identified during my visits, old records for the area may exist. The Department of Historic Resources offers programs which survey, catalog and encourage the preservation of historic resources. This Department maintains records of historic sites and these records are available to the general public. More information can be found at www.dhr.virginia.gov or by calling their office at (804) 367-2323.

THREATENED OR ENDANGERED SPECIES

A list of endangered species found in the area can be found in the stand 1 description. Information in this plan concerning the presence of Threatened and Endangered (T&E) species has been determined through observation and/or review of T&E species maps. This information does not substitute for a through exam completed by trained T&E specialists.

FOREST HEALTH AND PROTECTION

A healthy forest is a forest that possesses the ability to sustain the unique species composition and processes that exist within it. Active management of the forest helps to maintain and improve its productive capacity, taking into account all the factors that influence the resource elements addressed in the State-Owned Lands Management Plan. Silviculture harvest practices and the use of prescribed fire as a tool can reduce risk from wildfire, pests and invasive species, and ensure long-term forest health and vigor. Forest health protection issues are often directly related to the active management of insects and diseases, invasive plants and wildfire. Annual inspections for signs of insects, diseases or invasive plant infestations should be completed by the landowner.

No disease or insect problems were identified on the property. Continued monitoring is the best preventative measure to ensuring forest health. If any unusual problems are found, please contact the Virginia Department of Forestry.

FIRE

Prescribed fire, also known as “controlled burn,” refers to the controlled application of fire by a team of fire experts under specified weather conditions that help restore health to fire-adapted environments to obtain specific management objectives. Prescribed burning is a critical management tool that enhances and benefits forests, grasslands and wildlife habitats. Prescribed fire is an effective tool in site preparing harvested areas for replanting tree seedlings as well as reducing excessive amounts of hazardous fuel build up and catastrophic damage of wildfire on our lands and surrounding communities.

Prescribed fire is one of the most effective tools we have in preventing the outbreak and spread of wildfires.

Protection of your property from wildfire is essential. Wildfire rapidly destroys valuable timber, wildlife and property. From February 15 through April 30, open air fires are not permitted within 300 feet of woodland, brushland or field containing dry grass or other flammable material between midnight and 4:00 p.m.

CARBON CYCLE

All forest plants and soils "store" carbon, so active forest management influences the natural cycles of that storage in both living and dead plant material. The removal of carbon from the atmosphere is the process called carbon sequestration. Carbon sequestration is the process by which atmospheric carbon dioxide is consumed by trees, grasses and other plants through photosynthesis and stored as carbon in biomass (trunks, branches, foliage and roots) and soils. Sustainable forestry practices can increase the ability of forests to sequester atmospheric carbon while enhancing other ecosystem services, such as improved soil and water quality. Planting new trees and improving forest health through thinning and prescribed burning are some of the ways to increase forest carbon in the long run. Harvesting and regenerating forests can also result in net carbon sequestration in wood products and new forest growth.

WETLANDS

Wetlands include areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances, do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Wetlands are also highly diverse and productive ecosystems with emphasis on supporting timber production, water quality protection, wildlife habitat and more. It is important for you to be aware of and understand the laws and regulations related to forestry practices before engaging in wetland management activities on your land.

BIOLOGICAL DIVERSITY

Biodiversity is the variety of life (including diversity of species, genetic diversity and diversity of ecosystems) and the processes that support it. Landowners can contribute to the conservation of biodiversity by providing diverse habitats. It is important to select management options that offer the greatest opportunities for promoting wildlife habitats and conserving biodiversity while fulfilling other land management objectives. Some of these options include, but are not limited to, the conservation of wildlife habitats and biodiversity by:

1. Managing stand-level habitat features.
2. Promoting aquatic and riparian areas.
3. Managing landscape features.
4. Conserving rare species and communities.

5. Protecting special features and sites.

AGROFORESTRY/SILVOPASTURE

Agroforestry intentionally combines agriculture and forestry to create integrated and sustainable land-use systems. Agroforestry takes advantage of the interactive benefits from combining trees and shrubs with crops and/or livestock. In the United States, agroforestry is commonly divided into five main practices: Windbreaks, Alley Cropping, Silvopasture, Riparian Forest Buffers and Forest Farming.

Silvopasture combines trees with forage and livestock production. The trees are managed for high-value saw logs while providing shade and shelter for livestock and forage, reducing stress and sometimes increasing forage production. Silvopasture is increasingly popular in the southeastern region of the United States as a way to supplement timber income on small pine plantations and some hardwood stands. However, there can be problems with combining the two management schemes if it is not done correctly or actively managed. This management system requires active rotational grazing to avoid damage to the standing trees and allowing the forage to recover.

HIGH CONSERVATION VALUE FORESTS

These are forests of outstanding and critical importance due to their environmental, social, biodiversity, or landscape values. High Conservation Value Forests are considered critically important because they contain a unique combination of values. These can be social, cultural, biodiversity and environmental values.

Social or cultural values are aspects of a forest that are critical to the surrounding community's identity. They can range from significant historical features, such as sacred sites or burial grounds, to the forest's role within the community – for example, whether local residents have traditionally depended on the forest for berries, firewood or other products.

Biodiversity values are critical to preserving local flora and fauna. Such values could include rare ecosystems or habitats, or unusual communities of plant or animal species. Keep in mind that these ecosystems and species need not be on state or Federal Threatened or Endangered Species lists – they may just be considered rare regionally or locally.

Environmental values can benefit the whole community. Some examples are forests whose presence helps protect local watersheds or prevent erosion in vulnerable areas.

When forestry professionals and other experts evaluate a forest as a potential HCVF, they look at the entire landscape – not just a single stand of trees – and consider all of these values.

Places that combine and contain these features are rare, so it's especially important to protect them. *(American Forest Foundation)*

INTEGRATED PEST MANAGEMENT

A pest control strategy may use a variety of complementary strategies including mechanical devices, physical devices, genetic, biological or cultural management and chemical management. *(U.S. EPA)*

Integrated Pest Management (IPM) combines several appropriate pest control tactics into a single plan to reduce pests and their damage to an acceptable level. Using many different tactics to control a pest problem causes the least disruption to the living organisms and non-living surroundings at the treatment site. Relying only on pesticides for pest control can cause pests to develop resistance to pesticides, can cause outbreaks of other pests, and can harm surfaces and non-target organisms. With some types of pests, using only pesticides achieves very poor control.

To solve pest problems, first:

- Identify the pest or pests and determine whether control is warranted for each,
- Determine pest control goals,
- Know what control tactics are available,
- Evaluate the benefits and risks of each tactic or combination of tactics,
- Choose the most effective strategy that causes the least harm to people and the environment,
- Use each tactic in the strategy correctly, and
- Observe local, state and Federal regulations that apply to the situation.

The best strategy for each situation depends on the pest and the control needed.

(Michael J. Weaver, Patricia A. Hipkins, Virginia Tech Pesticides Program, 2013)

10-YEAR RECOMMENDED SCHEDULE OF MANAGEMENT ACTIVITIES

Year	Parcel	Activity	*Possible Cost Share	Future Stand Conditions		
				Year	Stocking	Species
2021	1	Clearcut Harvest (If selling property) Thinning to 80 ft^2/acre (If keeping property)		2022	80 ft^2/acre	Mostly Yellow-Poplar Regeneration
2022	1	Potential harvest if unable to be done in 2021				
2023	-					
2024	-					
2025	-					
2026	1	Reevaluate stand to determine status of regeneration. Potentially treat and invasive species as needed.	State Lands Funds			
2027	-					
2028	-					
2029	-					
2030	1	Meet with VDOF Forester to have plan updated				

This schedule may need to be adjusted depending on financial needs, timber markets, timing of actual harvest and availability of contractors.

STAND DATA SUMMARY

Stand	Forest Type	Acres	Year Estab.	Age	Site Index	Avg. DBH	Stocking/ Density	Stand Quality	Annual Growth	Other Important Stand Attributes (nat. regen., invasive plants, etc.)
1	Mixed Hardwood	23.2	-	-	>80 YP	13”	150 ft^2/acre	Good	Good	Cliffs along Northern edge likely make forestry activities impossible in steeper parts of the property

Parcel: Identifying letter or number for each parcel
Forest Type: **Pine** – by primary species
Pine/Hardwood – by primary species or major species group
Upland Hardwood – by pure species or major species group
Bottomland Hardwood – by pure species or major species group

Site Index: For dominant species present, indicate base age
Stocking/Density: Basal area or trees per acre
Other Important Stand Attributes: Is natural regeneration present?
Are there invasive plant species present?
(species and level of presence – heavy, moderate, low)

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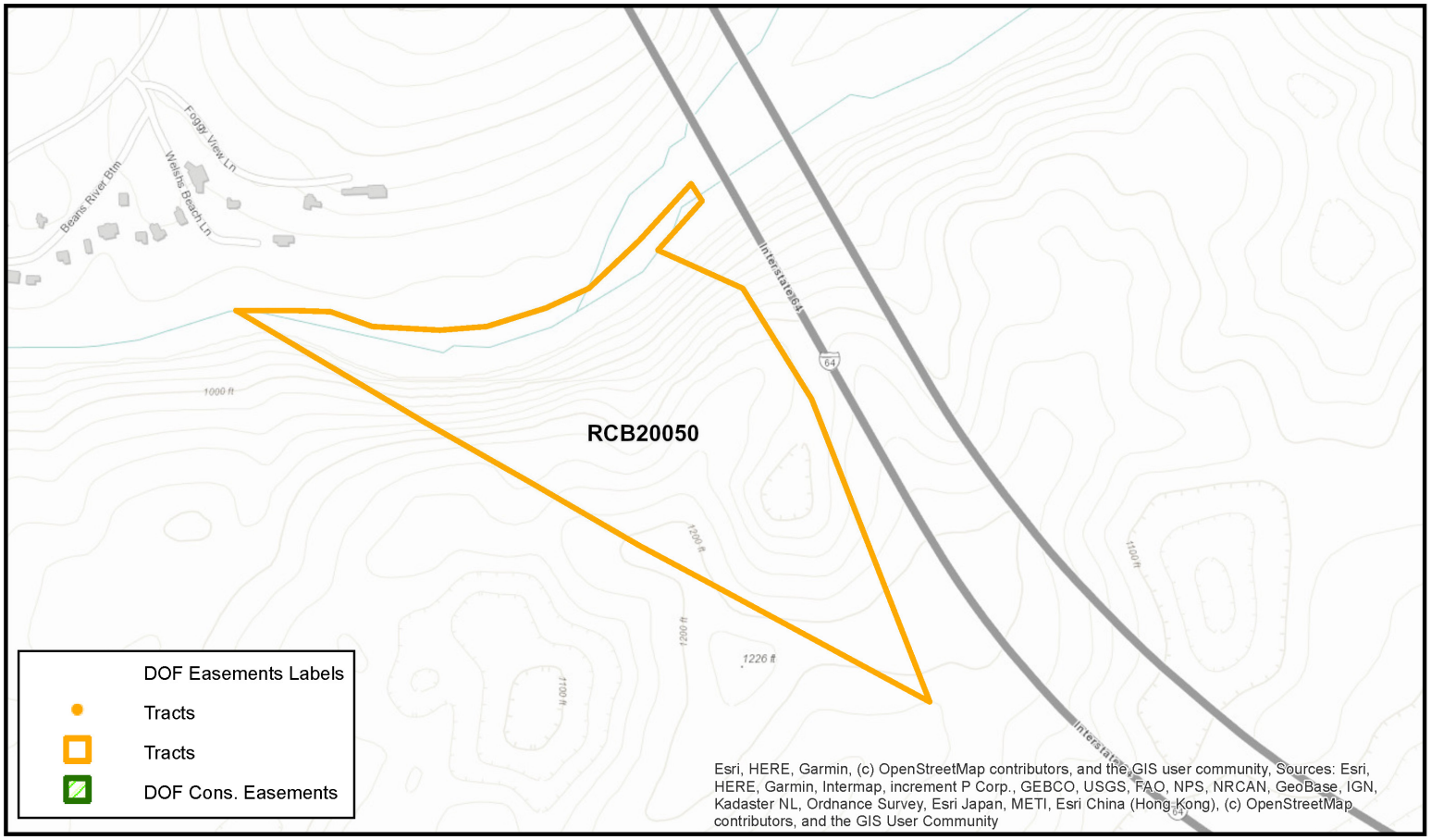
11/10/2020



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Feet
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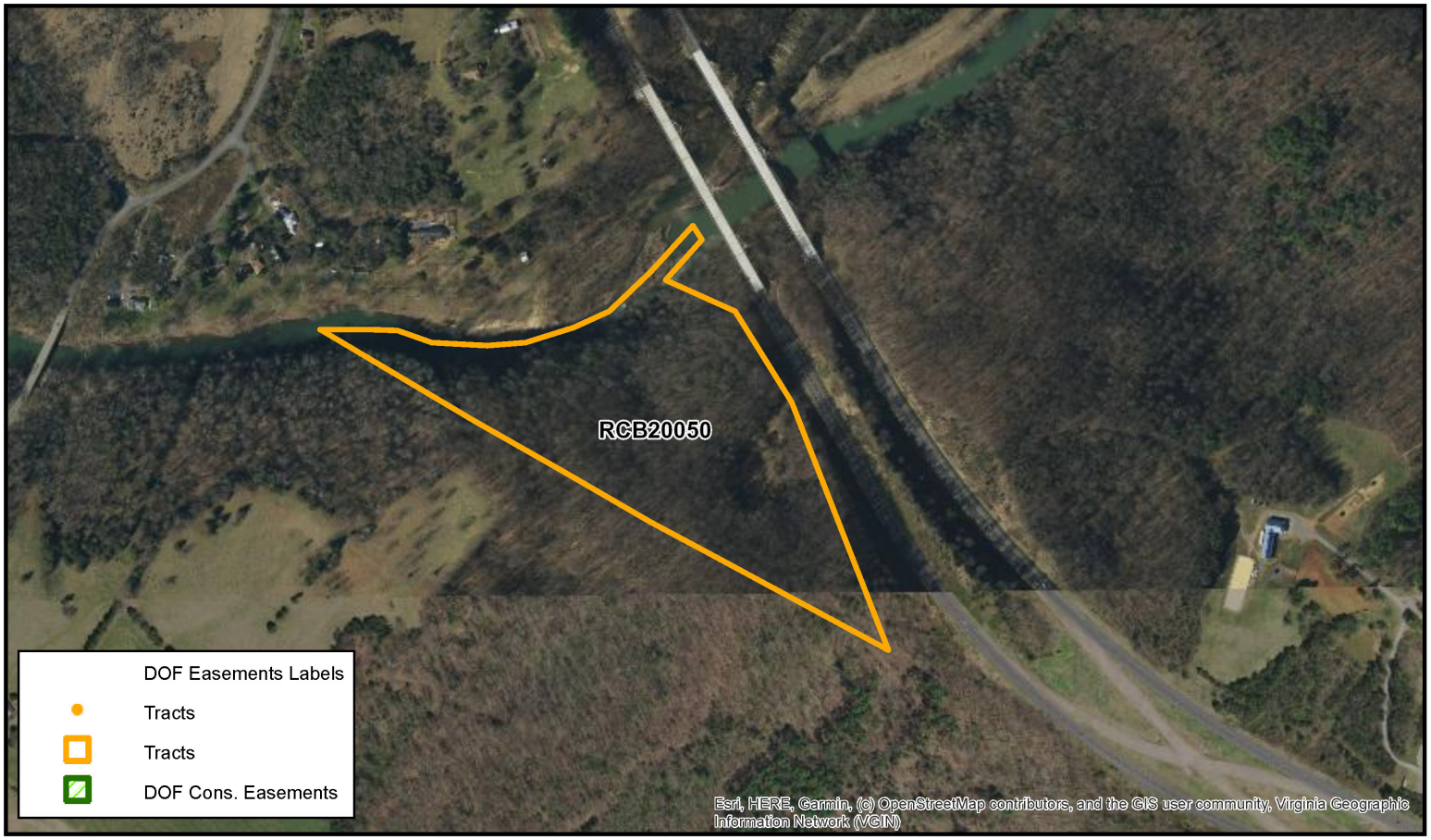
11/10/2020



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