Land Between the Lakes National Recreation Area

2026 Annual Operating Plan Supplement

Racetrack Hollow, Neville Bay, Nature Station & Devil's Backbone Prescribed Fire

Proposed Action: Prescribed Burning for Non-Native Invasive Species Control

1. Purpose and Need for Action

The project areas have experienced a significant increase in non-native invasive plant species , primarily Johnson grass *Sorghum halepense*, Chinese bushclover *Lespedeza cuneata*, Bermuda grass *Cynodon dactylon*, however many others are present. These invasives are outcompeting native vegetative communities, reducing biodiversity, degrading wildlife habitat, and altering natural fire regimes.
The purpose of this project is to restore native plant communities and improve ecosystem resilience. The need for action is driven by the rapid spread of these target invasives, which cannot be effectively managed through mechanical or chemical means alone. Prescribed fire is needed to mimic natural disturbance regimes, reduce invasive biomass, deplete the exotic seed bank, and stimulate the growth of native fire-adapted species.

2. Proposed Action Description

The Land Between the Lakes National Recreation Area (LBLNRA) proposes to implement prescribed burning across approximately 236 acres within the Racetrack Hollow, Neville Bay, Nature Station and Devil's Backbone management units.
The project will be executed sometime during Fall/winter 2026-winter 2027, with individual burn units treated in order to weaken NNIPS species and prepare these units for follow-up treatments. Additional treatments in following years will be conducted as necessary.

1. Project Elements and Implementation Details
   - Burn Unit Preparation: Prior to ignition, existing natural and artificial barriers (e.g., roads, rivers, trails) will be utilized as firelines wherever possible. Where necessary, temporary firelines (1–3 feet wide) will be established using hand tools, mechanized equipment, or wet lines to ensure containment. Hazard trees near firelines will be mitigated to ensure personnel safety.

Effects:

2. Integrated Vegetation Management (Connected Actions)
   To maximize the efficacy of the prescribed burn, the proposed action includes integrated follow-up treatments:

- Targeted Herbicide Application: Spot treatments of selective herbicides may be applied to surviving invasive resprouts following post-burn when target plants are actively growing and highly vulnerable.
- Native Seeding: Areas with high burn severity or large voids left by eradicated invasives will be supplemental-seeded with a native seed mix to prevent immediate re-invasion.

3. Project Design Features and Conservation Measures

- Burn plans: These will be developed in order to implement design features, BMP's, and any other site-specific conservation protection.
- Cultural Resource Protection: Known cultural, historical, or archaeological sites within the project area will be flagged and excluded from high-intensity fire exposure. Firelines will be constructed carefully around these boundaries to prevent ground disturbance.
- Soil and Water Quality: Fire lines will not be established directly through wetlands or riparian zones. Hand lines and wet lines will be favored near water bodies to prevent erosion and sedimentation.

Prescribed burns in open lands, such as native prairies, savannas, and grasslands, function as a crucial ecological reset button. Because these ecosystems evolved alongside fire—historically driven by lightning and indigenous cultural burning—most native species respond remarkably well (A. priceana for example).

The environmental impacts on native species can be categorized into direct physical effects, plant community shifts, and wildlife habitat changes:

1. Botanical Impacts (Native Flora)

- Germination and Growth Triggers: The intense heat from a prescribed burn breaks the dormancy of native seeds embedded in the soil, prompting immediate regeneration. Ash provides a localized burst of essential nutrients like phosphorus and potassium to the soil.
- Removal of the Duff/Litter Layer: Over time, dead grasses and plant material build up, creating a suffocating layer of "thatch" or duff. Fire clears this layer away, allowing sunlight and rain to hit bare ground directly. This benefits low-growing native wildflowers (forbs) and native bunchgrasses that struggle to compete with thick debris.
- Reversing Woody Encroachment: In open lands, moisture-loving or fire-intolerant trees and shrubs (such as sumac, dogwood, or eastern red cedar) naturally try to take over. Frequent prescribed fires top-kill these woody invaders, keeping the ecosystem unshaded, open, and true to its grassland or savanna state.

2. Direct Wildlife Impacts (Fauna Mortality & Displacement)

- Low Direct Mortality: Grassland wildlife is adapted to sporadic fire. Also, since most of these burn units are smaller in size than a forested burn, most animals have the ability to escape.
- Vulnerable Groups: Slow-moving species, such as box turtles, or newborn mammals can occasionally be caught in the flames. Ground-nesting bird eggs or nestlings are also highly vulnerable if a burn is conducted during peak spring/summer breeding windows.
- Temporary Displacement: Wildlife will temporarily leave the unit during the active burn due to smoke and heat. However, large herbivores and seed-eating birds are often observed moving back into burned areas within days to exploit the fresh, highly nutritious vegetative growth.

I have thoroughly reviewed the objectives, methodology, and timeline outlined in the document. I find the proposed work to be technically sound, feasible within the given timeframe, and well aligned with our current Land and Resource Management Plan goals.

I hereby approve these projects through completion and will provide the necessary guidance and resources to ensure success.

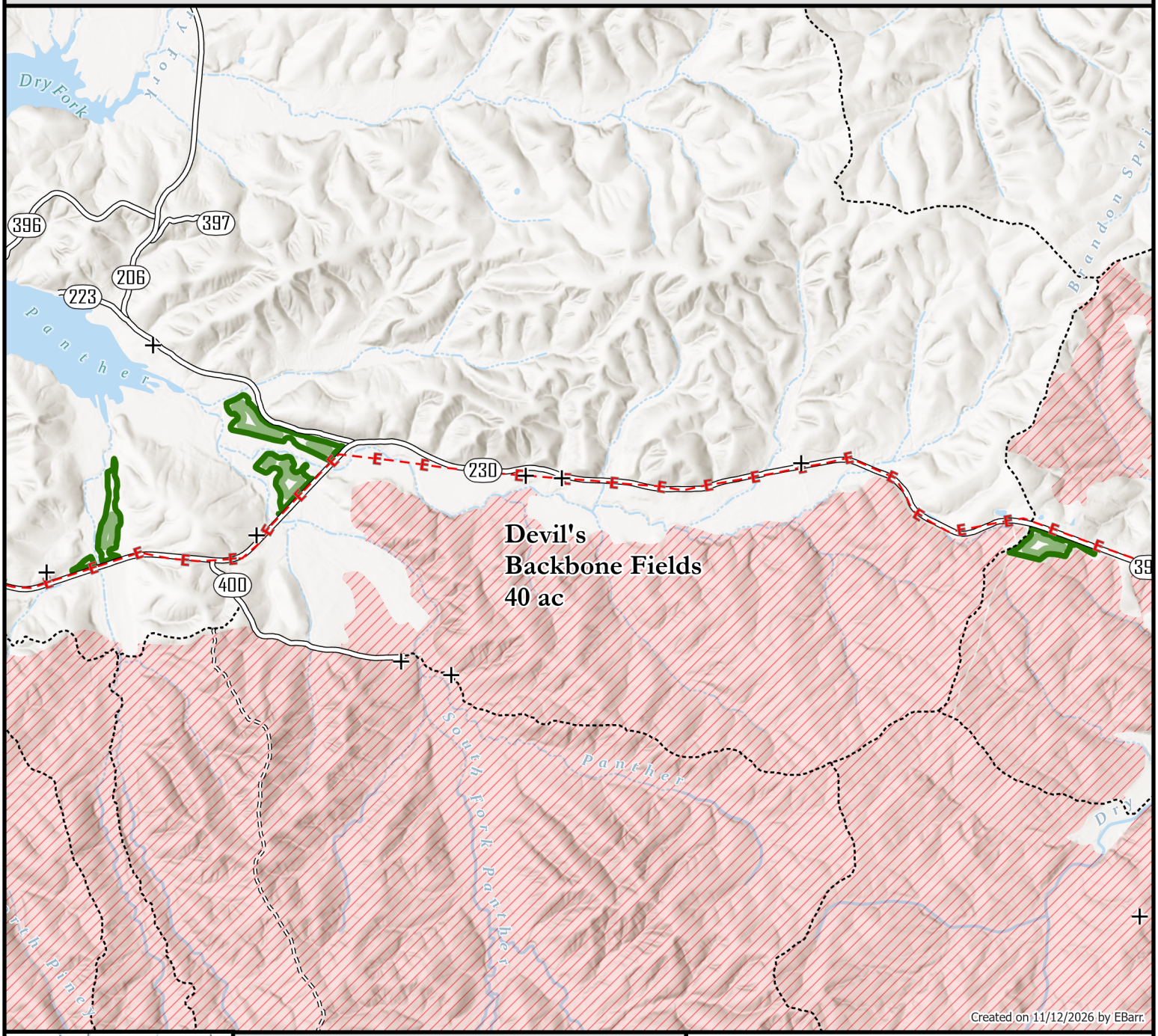
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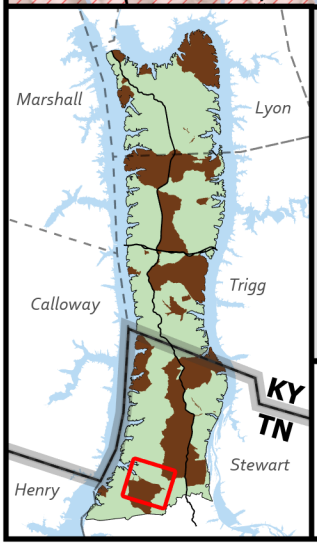
James R. McCoy
Area Supervisor
Land Between the Lakes National Recreation Area

Date

All questions and comments can be directed to Andy Mowrey at andrew.mowrey@usda.gov or 270-924-2131.

Devil's Backbone Fields RX





Legend

- RX Unit Boundary
- Highway
- FS road
- Trail
- Former trail
- Core
- Recreation Area
- Electric line
- Gas line
- Cemetery

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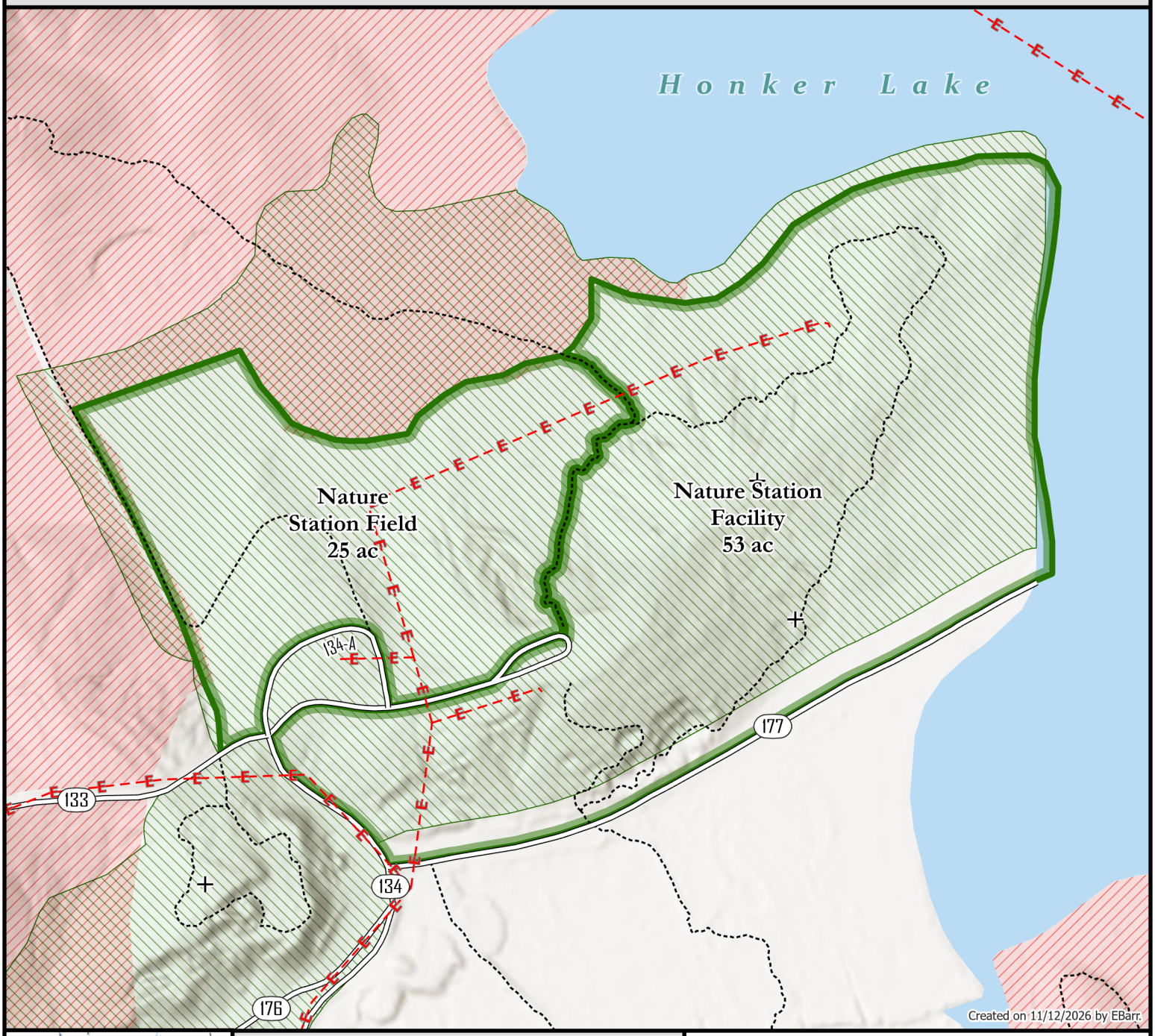
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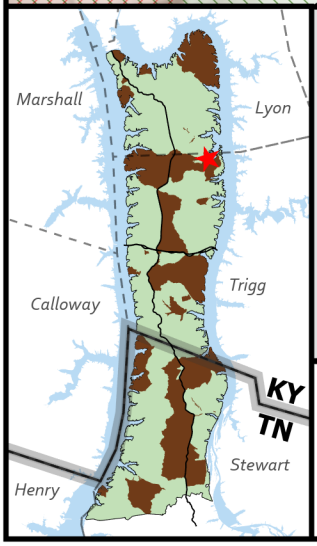
0 0.5 1 Miles

0 2,300 4,600 US Feet

Spatial Reference: NAD 1983 UTM Zone 16N

Nature Station Facilities RX





Legend

- RX Unit Boundary
- Highway
- FS road
- Trail
- Former trail
- Core
- Recreation Area
- Electric line
- Gas line
- Cemetery

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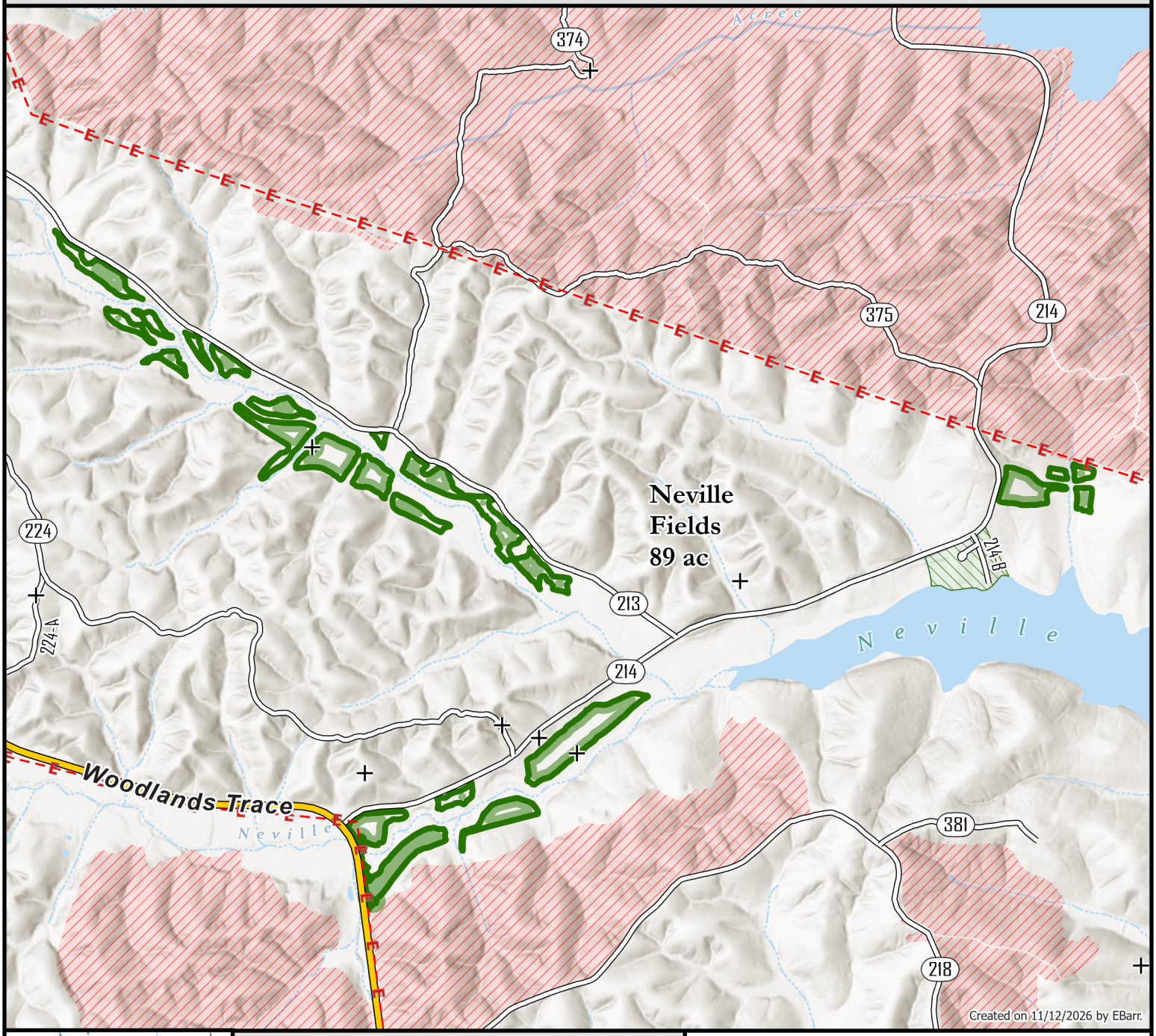
0 0.1 0.2 Miles

0 450 900 US Feet

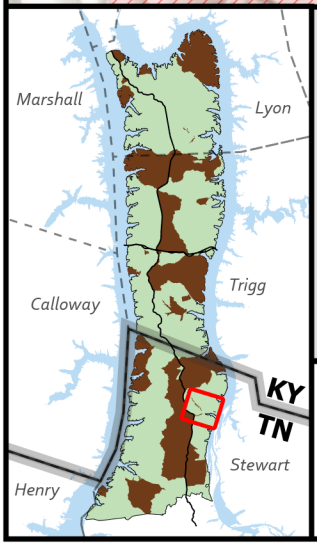
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Neville Fields RX



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Legend

RX Unit Boundary	Core
Highway	Recreation Area
FS road	Electric line
Trail	Gas line
Former trail	Cemetery

N

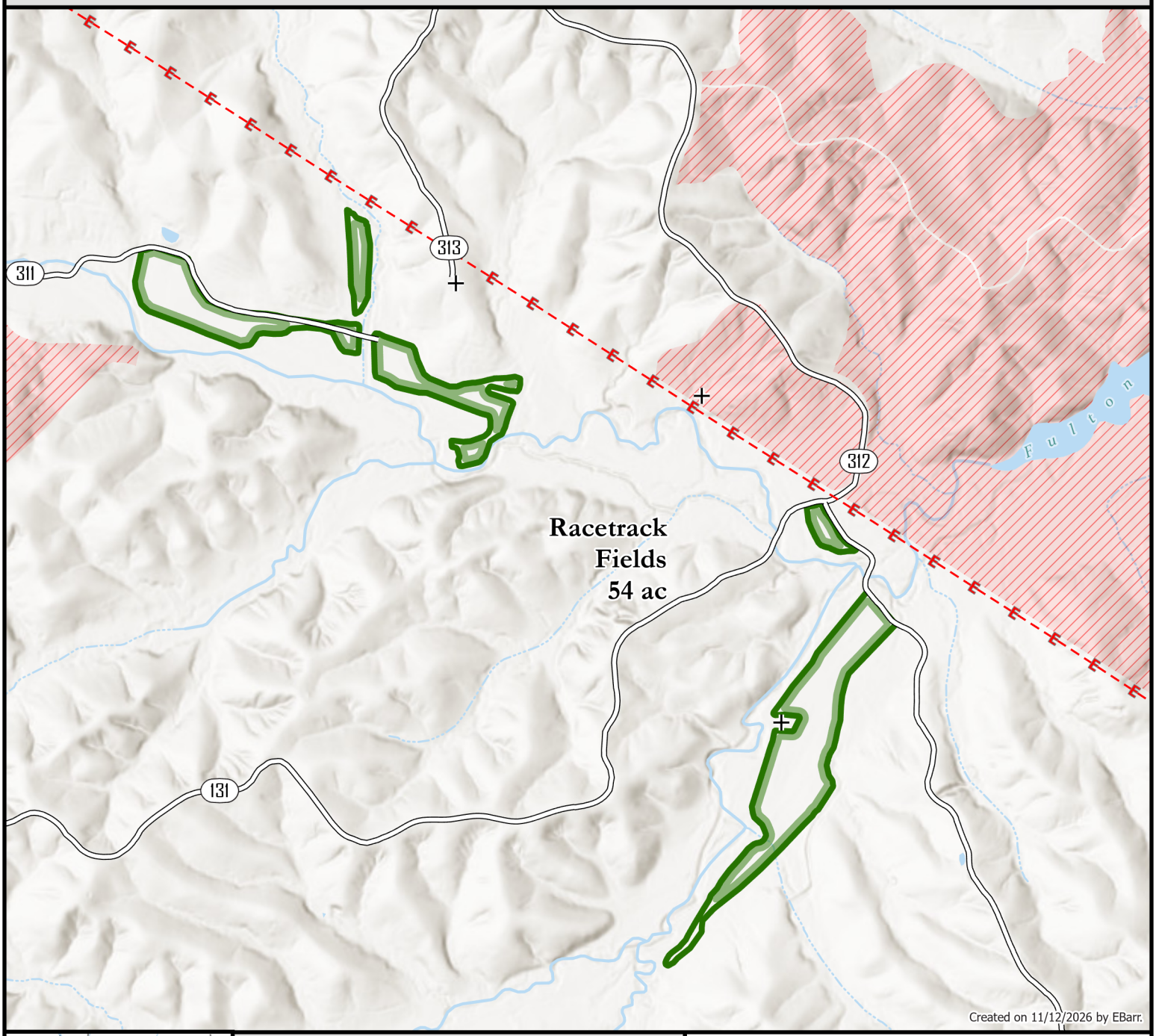
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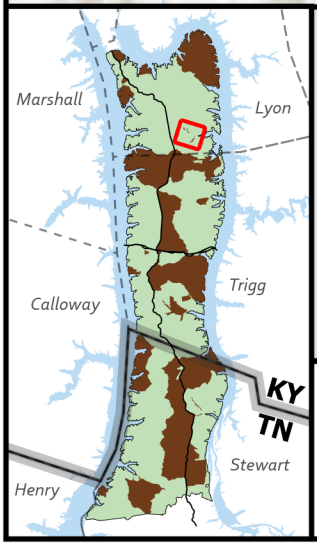
0 1,800 3,600 US Feet

Spatial Reference: NAD 1983 UTM Zone 16N

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Racetrack Fields RX





Legend

- RX Unit Boundary
- Highway
- FS road
- Trail
- Former trail
- Core
- Recreation Area
- Electric line
- Gas line
- Cemetery

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N

0 0.25 0.5 Miles

0 1,250 2,500 US Feet

Spatial Reference: NAD 1983 UTM Zone 16N