Resource Management Guides
Harrison-Crawford State Forest
30-day Public Comment Period (June 9, 2025 – July 8, 2025)

The Indiana State Forest system consists of approximately 160,251 acres of primarily forested land distributed across the state. These lands are managed under the principle that we're stewards of this land for the future. This work is guided through legislation and comprehensive scientific national and international forest certification standards which are independently audited to help insure long-term forest health, resiliency, and sustainability.

Resource management guides (RMGs) are developed to provide long-term, scientific forest management planning tailored to each forest compartment (300-1,000 acres in size) and tract (10 - 300 acres in size). There are 1,590 tracts across the state forest system statewide. Annually, 50-100 tracts are reviewed, and these guides are developed based on current assessments. Through science-based management practices, we prescribe management actions on select tracts every 15-25 year, diversifying the forested landscape and sustaining ecosystems.

The RMGs listed below and contained in this document are part of the properties annually scheduled forest inventories under review for Harrison-Crawford State Forest.

Compartment 4 Tract 8

To submit a comment on this document, go to:

https://www.in.gov/dnr/forestry/state-forest-management/public-comment/submit/

You must indicate the State Forest Name, Compartment number and Tract number in the "subject or file reference" line to ensure that your comment receives appropriate consideration. Comments received within 30 days of posting will be considered and review posted at:

https://www.in.gov/dnr/forestry/state-forest-management/public-comment/

Note: Some graphics may distort due to compression.

Harrison-Crawford State Forest | Compartment: 04 | Tract: 08
Forester: D. Martin | Date: 12/20/2022 | Acres: 94
Management Cycle End Year 2045 | Management Cycle Length 20 years

Location
Tract 8, also known as 6340408, is in the E ½, SW ¼ of Section 26, T2S R2E; and in the N ½, NW ¼, Section 35, T2S, R1E, in Crawford County, Indiana. This tract is a satellite property about 6.5 miles southwest of Marengo, Indiana, and west of State Road 66 on Balmers Road.

General Description
This tract is fully forested. There are three cover types on this tract: mesic oak-hickory; mixed hardwoods; and conifer (including planted pines and eastern redcedar).

History

- 1951 262 acres purchased from Jeff and Lillie Satterfield; 19 of those acres constitute the southern portion of this tract.
- 1953 75 acres purchased from Gilbert and Dora Satterfield; all those acres constitute most of the northern portion of the tract.
- 1955 7,000 white and jack pines planted on G. Satterfield portion; Small adjacent area of J. Satterfield acquisition had white, red, and Virginia pine planted.
- 1995 Forest inventory completed, and management guide written by Dan Shaver
  - Total basal area / acre – 103
  - Total BDFT / acre – 4,060
  - Total BDFT – 335,376
  - Top 5 Species by volume*

Species	BDFT
White Oak	168,555
Red Oak	42,062
Black Oak	39,939
Yellow Poplar	24,453
White ash	13,818

**Pine is not included in this list as it was measured by tons of pulpwood*

- 2001 Timber sale conducted with tract 6340409 by Dwayne Sieg, Wayne Werne and John Friedrich.
  - Number of trees – 1,463
  - Number of culls – 471
  - Total volume sold – 279,436
  - Top 5 species by volume

Species	BDFT
White Oak	78,119
Black Oak	67,680
Yellow Poplar	32,904
Sugar maple	24,939
Red Oak	22,813

Landscape Context
The surrounding landscape is primarily residential or agricultural to the east and west. Forested land is more abundant north of the tract. Immediately to the south is primarily managed forestland, owned by the Indiana Department of Natural Resources (IDNR) Division of Forestry.

Topography, Geology and Hydrology
This tract consists of two ridge tops. There are two east-west mapped intermittent stream channels occurring with one dissecting the tract and the other forming the southern border. Both drainages feed into Bogard Creek. There are likely karst features typical of the area such as springs and sinkholes, and these will be buffered in accordance with the 2022 Best Management Practices (BMP) Field Guide.

Soils
There are eight (8) unique soil types in this tract

18 acres are Tipsaw-Adyeville complex which have 25 to 75 percent slopes and is somewhat excessively drained. This is the soil leading into the southern drainage channel.
8 acres are Wellston silt loam which have 12 to 18 percent slopes and is well drained and eroded.
3 acres are Apalona silt loam which have 6 to 12 percent slopes and is well drained and eroded.
22 acres are Apalona silt loam which have 6 to 12 percent slopes and is moderately well drained and severely eroded.
17 acres are Wellston silt loam which have 12 to 18 percent slopes and is well drained and severely eroded.
1 acre is Apalona silt loam which has 2 to 6 percent slopes and is moderately well drained
25 acres are Adyeville silt loam which have 18 to 25 percent slopes and is somewhat excessively drained and eroded. This soil makes up the most acreage and is the soil type around the intermittent stream in the center of the tract.
1 acre is Gatchel loam which have 1 to 3 percent slopes can for a very brief duration occasionally be flooded but is somewhat excessively drained

Access
Legal access is Balmers Road, which runs through the north end of the tract. Management access would be difficult for the southern portion of the tract, as there are no interior roads and the topography is rugged. In the last management cycle, access was arranged with the neighbor bordering the southeast end of the tract to cross their field to get from Balmers Road. This route would be a logical access point for the next harvest cycle but would require arrangements with the current neighbor.

Boundary
The eastern property boundary is reasonably identifiable. There is a sandstone cornerstone and orange carsonite post at the northeast corner of the tract. There are fencing and/or fence fragments on the east line along the full length of the tract. There is supposed to be (not observed, noted on a surveyor's report) a McCauley monument at the southeast corner of the SW ¼ of this section. There is a Timberlake rebar pin at the "shoreline" of the south side of Bogard Creek at the northwest corner of this tract. Currently the tall bank is shedding soil that is gradually covering up this pin. The western boundary has an offset (calculated 294 feet) midway.

At the northwest corner of the SE ¼, SW ¼, Section 26, there is a sandstone cornerstone on top of the northern bank of the creek channel. Fence fragments were observed running down the western boundary to the south from this stone. Fence fragments were recorded running along the east-west line that forms the southwestern boundary. An intermittent stream channel forms the southern tract boundary, separating it from compartment 4 tract 9 (6340409) to the south.

Ecological Considerations

This tract included a variety of habitat types in mixed hardwoods and oak to provide hard mast food sources for game and non-game species, some of which might include but not limited to white-tailed deer (*Odocoileus virginianus*), eastern wild turkey (*Meleagris gallopavo*), and squirrels (*Sciurus spp.*). Various signs of reptiles, amphibians and birds were present. The conifer component would likely provide dense cover to protect from predators as well as thermal cover in the winter months.

The Division of Forestry has developed compartment level guidelines for important wildlife structural habitat features such as snags and legacy trees. Snags are standing dead or nearly dead trees. Snags provide value to a stand in the form of habitat features for foraging activity, den sites, decomposers, bird perching, and bat roosting. Snags eventually contribute to the future pool of downed woody material, which provides habitat for many ground-dwelling species and contributes to healthy soils. Legacy trees are live trees of a certain species and diameter class, that have potential future value to various wildlife species, if retained in the stand.

In the compartment that includes this tract, inventory data indicates snag densities meet DoF targets in all size classes. However, where opportunities exist in this tract, additional snags should be created by deadening live or declining cull trees when conducting management activities in this tract (i.e., timber stand improvement (TSI)). This would be most beneficial for wildlife if done with trees >12" dbh. Alternatively, large cull trees could be simply left in the stand to become future snags on their own, if they do not interfere with silvicultural objectives. Legacy tree densities meet Division of Forestry compartment-level targets.

There are various invasive species present such as ailanthus and multiflora rose. Pre- and post-harvest invasive species control should take place to remove or minimize the impact of these species.

A formal Ecological Review process, which includes a search of Indiana's Natural Heritage Database, is part of the management planning process. If Rare, Threatened or Endangered species were found to be associated with this area, the activities prescribed in this guide will be conducted in a manner that will not threaten population viability of those species or communities.

Recreation

The primary recreation use is hunting. There are no developed recreation trails or other facilities within the tract. For public safety, recreational activities would be temporarily altered within the tract during active management.

Cultural
Cultural resources may be present, but their location(s) is protected. Adverse impacts to significant cultural resources will be avoided during any activities.

Tract Subdivision Description and Silvicultural Prescription

General
There are three unique cover types located in this tract consisting of mesic oak-hickory, mixed hardwoods, and conifers (various planted pine species and eastern redcedar). The three stands have varying degrees of maturity and harvest history.

Throughout the tract, patch-cut openings may be applied to certain areas for multiple reasons, such as the overstory suffering from mortality, vigorous desirable natural regeneration, or poor-quality trees. These openings will provide early seral habitat in addition to the release of the desired trees. An estimated 5-15% of the tract would have these openings as they would have to be large enough to achieve the desired effect of both habitat and regeneration with adequate sunlight long enough to allow regenerating trees to become part of the canopy.

For multiple reasons low quality or understory trees may not be cut during the harvest. For this reason, post-harvest TSI would be required to reduce poor quality or competing trees to release oak and other desired species to not alter the composition of the cover type.

TSI can include cutting, girdling, and herbicide application to low value trees. Prescribed fire can also be used to achieve this desired condition or used in combination with TSI. If a prescribed burn is planned, a burn plan will be written and followed, this includes burning during the dormant season and in accordance with all prescribed fire guidelines. During post-harvest TSI any invasive species, if not already treated prior to the harvest, can also be removed.

Due to the current stocking and overall condition of the tract an improvement harvest is recommended. With current stand conditions and stocking, an improvement harvest would reduce low-grade trees or multiple large trees growing together to release future crop trees.

The current forest resource inventory was completed on 12/20/22 by foresters Daniel Martin and Wayne Werne. A summary of the estimated tract inventory results are located in the tables below.

Tract Summary Data (Trees > 11" DBH)

Category	Estimate
Tract Acres (Forested)	94
Gingrich Stocking Percent (%)	120
Trees Per Acre	224
Basal Area Per Acre (SQFT)	137
Volume Per Acre	7,231

Tract Summary Data (trees >11"DBH):

Species	# Sawtimber Trees	Total BDFT
American Beech	287	30,290
American Sycamore	18	2,660
Bitternut Hickory	135	16,770
Black Oak	587	88,240
Black Walnut	63	6,970
Blackgum	99	5,810
Chinkapin Oak	117	13,450
Eastern Red Cedar	319	3,510
Mockernut Hickory	76	4,360
Northern Red Oak	120	34,240
Pignut Hickory	433	48,380
Red Maple	260	15,620
Scarlet Oak	52	4,580
Shagbark Hickory	58	3,670
Shumard Oak	44	8,960
Sugar Maple	417	24,930
White Oak	1,270	274,980
Yellow Poplar	644	92,270
Total:	**4,999**	**679,690**

Stand 1 – Mesic Oak-Hickory – 51 acres
This cover type is fully stocked. White oak is most of the volume in this stand making up 61% of the stand total. The next most abundant species is yellow poplar which accounts for 16% of the volume in this stand. Emerald ash borer caused mortality of white ash was noted throughout the stand.

This cover type accounts for over half of the acreage and is spread throughout the tract, mainly on the south facing slopes and flatter areas. This area contains 61% of the volume of the tract. Given the current stand conditions and stocking level, an improvement harvest would thin the stand, capture mortality, remove low quality trees, release crop trees, and release advanced natural oak regeneration in the understory should it occur. If a harvest is conducted, the composition of the site would remain the same with the majority of the residual volume being in white oak trees.

In areas with particularly vigorous oak regeneration or inadequate quality overstory group selection or patch-cut opening may be applied. These openings will provide early seral habitat in addition to the release of the desired trees.

The part of this cover type lying south of Balmers Road to the first main intermittent drainage (around 20 acres) contains a common occurrence of oak (mostly white oak) sawtimber overstory, with a widespread American beech understory. Prescribed burning prior to the harvest or post-harvest would be a useful tool to greatly reduce the beech component and set the stage to recruit oak regeneration.

Stand 2 – Mixed Hardwoods– 31 acres
This cover type is fully stocked with sugar maple making up 15% of the volume and white oak is second at 14%. This cover type occurred mainly on north facing slopes and potentially old field areas.

Given the current stand conditions and stocking level, an improvement harvest would thin the stand, capture mortality, remove low quality trees, release crop trees, and release advanced desirable natural regeneration in the understory should it occur. If a harvest is conducted, the composition of the site would remain the same with maple and other hardwoods comprising the stand with no single species dominating the stand.

Stand 3 Conifer – 12 acres
There are two distinct conifer stands within this cover type; 7 acres include red and Virginia pine, and 5 acres is almost exclusively white pine. While the records show that jack pine had also been planted, it has since been removed through natural mortality, as it is a short- lived species.

The mixed pine cover type includes a red pine stand, and a Virginia pine stand. These pine species, however, will have similar management practices, therefore they are included together as mixed pine. These nonnative pine stands are highly overstocked and stagnant, over topping and crowding native hardwoods such as yellow poplar and maple. A conversion from pine to native hardwoods through patch-cut openings would benefit this site. This would transition from a conifer cover type to a mixed hardwood cover type.

The eastern white pine stand is made up of 86% eastern white pine, however it is in much better form and condition than the mixed pine stand. A single-tree selection would benefit this stand to thin some white pine to allow more space to grow as it is currently overcrowded. Once the harvest is complete TSI could be completed to ensure spacing and residual stocking are adequate for advancement and growth of the residual pine and advancing hardwoods.

All three pine species were tallied as poles during the inventory. Data indicates approximately 159 cords, or 79,500 board feet, is available from red and Virginia pine combined, if these areas were to be converted to hardwoods. Data indicates approximately 253 cords, or 126,500 board feet is available from eastern white pine. Because these species were tallied as poles, volume from them would be in addition to the total board feet listed in the summary data table.

Summary Tract Silvicultural Prescription and Proposed Activities:
Due to the current stocking and overall condition of the tract an improvement harvest is recommended and could be started as early as 2025 or 2026. Overall, the tract volume would be reduced by 45-65%. This would largely be done by single-tree and group selection. Some patch-cut openings may occur where openings would be beneficial to the stand. TSI would be recommended both before and after the harvest to pretreat invasives present and then return to the tract to complete any patch-cuts created by the harvest, remove unmerchantable trees and continue removing any invasives.

The red and Virginia pine stands should be completely removed. Besides the conversion of the pine and creation of early successional hardwoods, this harvest will largely not change the

composition of the tract. The forested areas will remain forested retaining the current dominant species present.

Given the type and amount of recreation that is carried out on this tract, impacts will be minimal. Hunting opportunities should be improved by the maintenance of early successional habitat and the recruitment of hard mast producers such as oak and hickory to provide deer and small mammal browse.

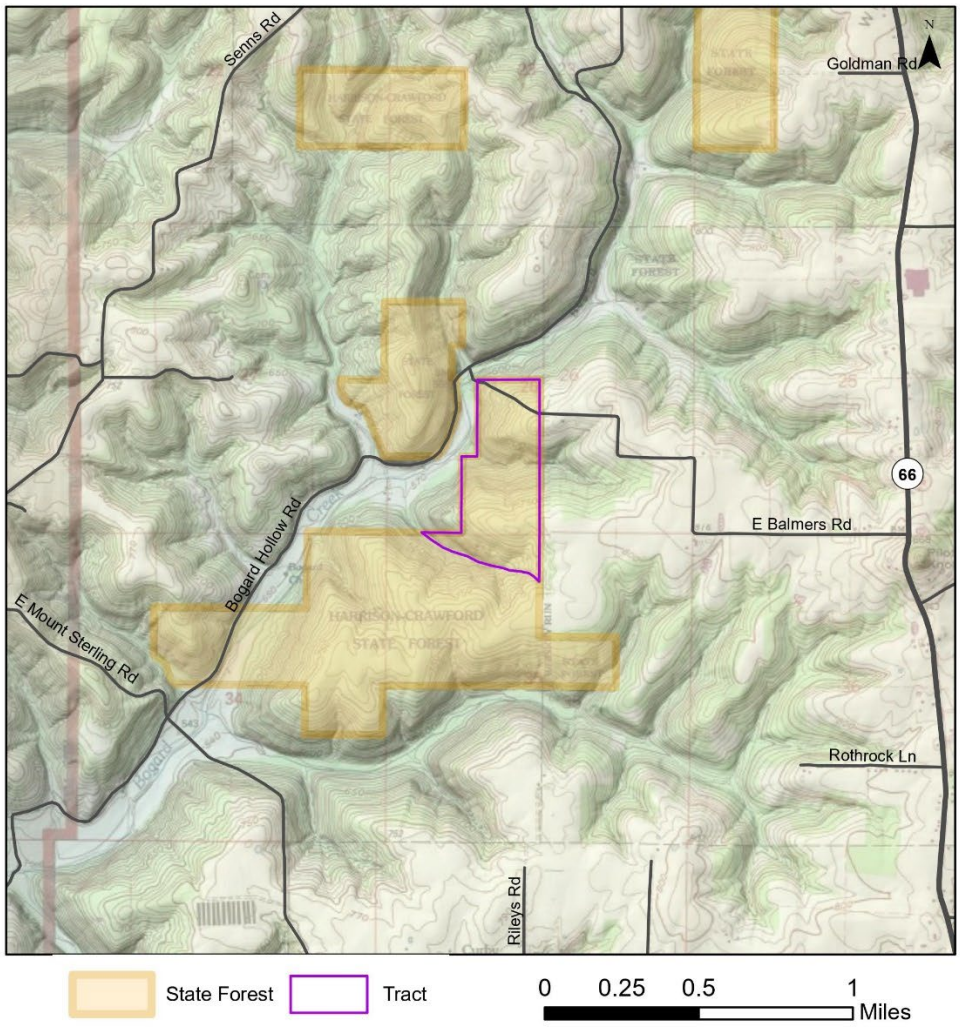
BMPs will be followed throughout the timber harvest to ensure management activities impact to soils are limited. Soil disturbance will largely be confined to the log yard and main skid trails. The BMPs will also ensure the water quality is not permanently affected. The following of these BMPs will be contractually required of management operators.

Once the harvest is complete, post-harvest TSI should be conducted and then the stand should be revisited for regeneration opening and post-harvest checks within 3 years to ensure proper regeneration and growth is occurring. 10 years after a harvest, any regeneration openings created should receive a crop tree release and any other needed cultural practice (vine and invasive control). In about 20 years the stand should be revisited for another inventory and a new management guide can be created.

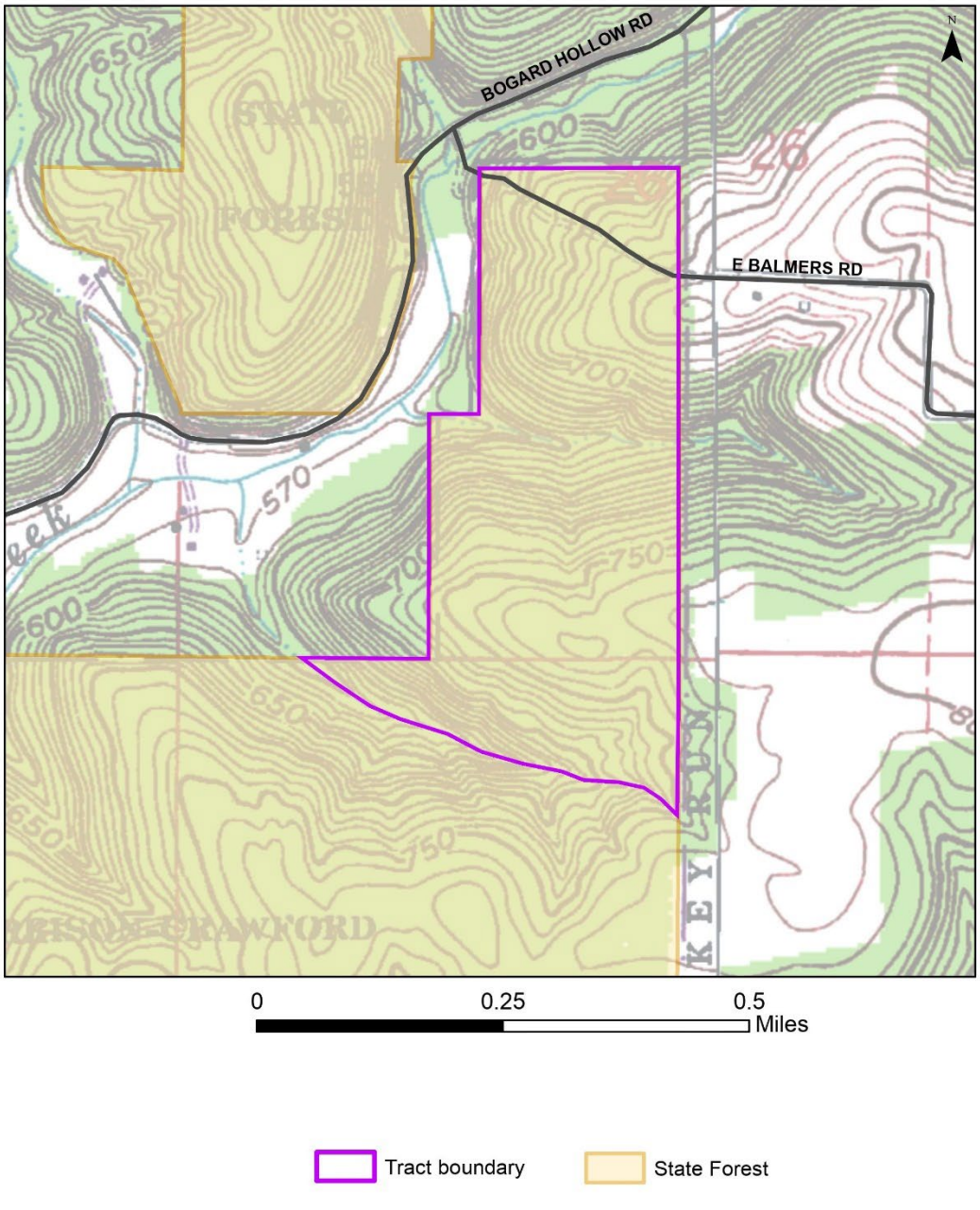
Proposed Activities Listing

Proposed Management Activity	*Proposed Date*
Gain access	2025-2027
Prescribe burn	2026-2027
Invasive species treatments	2025-2027
Mark harvest	2026-2028
Timber harvest	2027-2030
Post-harvest TSI	One to two years after harvest
3-year regeneration review	Three years after harvest
Opening(s) crop tree release	Ten years after harvest
Next forest inventory	2045
New management guide	2045

Harrison-Crawford State Forest
Location Map
Compartment 4 Tract 8



Harrison-Crawford State Forest
Compartment 4 Tract 8
Tract Map



Harrison-Crawford State Forest
Compartment 04 Tract 08
Cover Types Map