Indiana Department of Natural Resources - Division of Forestry

RESOURCE MANAGEMENT GUIDE
"DRAFT" REVISION

Yellowwood State Forest Compartment **3** Tract **26**
Tract acreage: 60 acres (Commercial Forest 58 acres, Nature Preserve 2 acres)
Forester : L. Bowman Date : 12/6/10

Location
Located in sections 15 and 22 Township 8N, Range 2E of Brown county. The tract is located off Miller Ridge (a firetrail and section of Brown County State Park Horse trail D). This is the eastern boundary of the tract and provides access into the tract. The tract is surrounded by state forest land in all but the southeastern corner which is Brown County State Park boundary.

History
Formerly Tract 16 until 1984. Two acres of the tract were included with the Crooked Creek Nature Preserve in 1981. Past management includes a 1987 harvest volume 151,997 bf in 585 trees. Post-harvest TSI included REO planted in regeneration openings and autumn olive around log yards.

Topography, Geology and Hydrology
The tract contains areas of steep slopes (35%+). About twenty percent of the tract is ridgetop acreage. Remaining portions range from moderate to steep slopes. Drainage from the tract enters into a mapped intermittent stream located along the tract's northern boundary to the southwest and lies within the Middle Fork salt Creek watershed.

Soils
Berks-Trevlac-Wellston complex (BgF) 20 – 70 percent slope. Severe limitations noted for logging due to slope. Comprises 80% of tract acreage.
Wellston-Berks-Trevlac complex (WaD) 6 – 20 percent slope. Slight to moderate limitations.
Bean blossom channery silt loam (Be) 2 – nearly level, gently sloping. Slight to moderate limitations. Bean blossom

Access
This tract has good vehicle access from Miller Ridge (off Crooked Creek Road). Road improvements include re-dozing out drainage and spreading 9 loads of stone (Nov. 2005). The horsetrail limited the stone type to #4 along the trail. #2 stone was used on portions of firetrail.

Boundary
Boundary marking is up-to-date for this tract.

Wildlife

Wildlife resources in this tract are abundant. Common species which are present include: Squirrels, white tailed deer, turkey, various small furbearing animals, and a variety of songbirds. An official wildlife review was completed on the tract. This review focuses on wildlife habitat, looking at what is present in the tract and what can be created through management activities. Snags, commonly known as dead, standing trees, were inventoried as well. This snag information was used to complete a bat management guideline form.

Communities

A Heritage database review was submitted for this tract. This tract does contain yellowwood trees. The establishment of the Nature Preserve, which is partially located in the tract, was due to this species. As this species is intolerant it will likely favor disturbance – while no harvest operations will occur within the preserve boundary, there are yellowwood trees within the commercial portion of the tract. Release of yellowwood trees will be beneficial as they are a shade intolerant species. Tract 26 was the site chosen in 2002 for release of 35 yellowwood trees. Seven of these trees were re-encountered during inventory. Out of curiosity I have compared there dbh measurements:

	Year: winter 2002	spring 2005
Trees #	DBH (in.)	DBH (in.)
120	7.4	7.6
123	10.0	10.3
124	12.4	12.7
125	14.4	15.2
131	3.2	3.3
132	6.6	6.7
133	14.5	15.6

Mean average growth was .41 inch dbh. These trees will be remeasured along with the additional 28 that were included in the 2002 release effort. Although no control stand was measured for comparative growth without release, the results of increased dbh growth will likely promote the release work in other yellowwood stands and favor light harvesting in these stands.

A 1+/- acre area of WHP is located on the tract's southern boundary.

Exotics

No exotic species were noted at time of inventory, however the tract's history notes autumn olive planted around each of the two yards. An effort will be made to eradicate this species.

Forest Condition

The tract's southern half includes almost 5 acres of regeneration openings. These openings were the result of capturing mortality of declining large sawtimber REO. Efforts to plant REO into the openings have led to replacing some REO in the stand; however these stems need release of the YEP naturally regenerating. The BLO, WHO and CHO present exhibited signs of looper damage (defoliation) during inventory. Many

of the oaks were noted to be apparent quality stems. Some windthrow was evident, primarily in the northern half. This tract would benefit from a timber harvest to remove stems exhibiting declining vigor (looper damage and a few over-mature stems). Most of the tract volume is currently CHO, BLO and REO. Some WHO and YEP would also be included in harvest volumes. The harvest volume indicated in the estimate does not support a timber sale however the low volume results from the southern half of the tract. This tract has been selected as a potential harvest area for the 2006/2007 fiscal year along with adjacent Tract 21. The inventory indicates a present tract volume of 4,181 bf/acre. The harvest volume was calculated at 831 bf/acre. The basal area for this area was 63 sq.ft./acre. The tract was estimated to be 67% stocking.

Recreation
This tract is likely used for hunting due to good access. Miller Ridge is a dedicated Handicap Hunter ATV access trail. Horse trail D from Brown County State Park runs along the eastern boundary. Horse riding also occurs along the firetrail connecting to the horse trail although this section is not intended for trail riding.

Cultural
No historical sites of record.

Tract Prescription and Proposed Activities

Some portions of the tract appear to have stocking of good quality. Though the inventory results indicates a low harvest volume and 67% stocking, the visual inspection indicates this tract would benefit from a harvest. Volume estimates conclude total sawtimber volume of 4,181 bf/ac, including 831 bf/ac for harvest. There are areas which may be marked as regeneration openings, the size and location will best be determined at time of marking as some past fire damage of stems was evident. Likely areas found to have heavy fire damage will be considered for regeneration. Perhaps some areas of regeneration will allow yellowwood trees to become established, as this species is present within the tract. Also, release of any yellowwood saplings would be recommended as they are encountered during marking efforts. Timber marking is planned for the winter of 2005/06. The central yard area location is pending DHPA clearance (see DHPA map) two previous yard sites are available. TSI of the regeneration openings from 1987 harvest will be most beneficial in releasing the remaining REO planted following harvest operations.

Tract Area Prescriptions (see map)

AREA A Forest types: YEP, mostly pole size stems

Some low quality SUM would likely be harvest candidates. TSI is recommended for the post/pole YEP stems. The north area was noted as needing to harvest to capture mortality among the YEP. Yellowwood trees were noted in the east-central area.

General recommendations are for an improvement harvest using single-tree selection to release future crop trees. The residual stand would include YEP, SCO, AMB, and SUM . Harvest removals would include YEP, SCO & PIH. Basal area ranges from

60 – 80, but 110 in northern area. Slope steepness may limit harvest operations of lower portions.

AREA B Forest type: Mix oak

These areas have some nice stems, including BLO, CHO and WHO. An improvement harvest utilizing single-tree selection will help release the future crop trees of these species. Steep terrain may limit some harvest efforts and marking should remain light in areas already exhibiting windthrow with the exception of areas that would best be regenerated. No areas for regeneration were noted during inventory, however the marking strategy may warrant openings in some cases. Mortality was noted – several BLO with looper-thinned crowns.

The eastern area along the ridge has a low basal area (80 sq.ft.) but does have a few stems, primarily BLO, YEP and SUM, that would be marked with harvest based on declining vigor.

AREA C Forest type: Mix hardwood -18-year old regeneration opening

Sapling YEP and REO (REO planted after harvest). TSI to release REO and better YEP stems as well as deaden those trees which did not succumb to girdling with 1989 TSI efforts.

AREA D Forest type: WHP

This small acreage of this stand (approx. 1+/- acre) does not warrant pine harvest. The area is likely more beneficial to wildlife as an intact small pine forest. It is adjacent to additional pine acreage on Miller Ridge. A wildlife pond is located in this area.

AREA E Forest type: CHO & Mix oak

Harvest stems would primarily include CHO, mainly medium to large sawtimber. Primary marking objective is improvement harvest with single-tree selection to remove the stagnant, low vigor stems and release stems to respond for future harvest. Most of this area is on a poor site. Most sawtimber is small size CHO.

OVERALL

The overall recommendation for this tract is to conduct an intermediate cutting, more specifically an improvement harvest using single tree and group selection, where applicable. No specific areas for group selection have been targeted at this time. TSI should follow to reduce stocking in some areas of high basal area with pole size stems and release crop trees not successfully released during the harvest. The marking objective should be the removal of low quality and less desirable stems in an effort to improve the overall health and vigor of the stand. The reduction of stocking levels should provide space for pre-selected crop trees to move forward into the next cutting cycle. Species composition will likely become more diverse and less susceptible to insect and disease infestation a common problem with homogeneous stands. These management techniques will improve the overall health, vigor and quality of the residual stand, while utilizing stems dropping out due to natural mortality, overstocking or maturity.

Wildlife will benefit from this harvest as well. Additional sunlight penetrating the forest floor will simulate the development of new ground flora, subsequently increasing nesting and foraging habitat. This is essential for game and non-game species as well as continued forest development. TSI will increase snags per acre while diversifying diameter distributions of both snags and growing stock trees.

Proposed Activities Listing
Timber Harvest planned in 2006/2007 fiscal year.
Timber Stand Improvement work during 2006/2007 fiscal year. Including the treatment of any invasive exotics discovered, such as the autumn olive noted at the log yards.
Include the 15 unharvested acres from 2006 timber sale with 2010-2011 timber sale that includes Comp. 3 Tracts 32 and 25.
Tract Re-inventory work 2025.

Attachments
The following items located in property file:

- Prescription map
- Topo map of the tract
- Soils map
- Stocking chart

To submit a comment on this document, click on the following link:
http://www.in.gov/surveytool/public/survey.php?name=dnr_forestry

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.