

Accuracy Assessment of Conifer Stand Delineation in the Hoosier National Forest

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Conifers in the Hoosier National Forest: Forest management decisions on federal lands are implemented at local scales but must also account for regional and national objectives. Non-native conifer species were introduced in the HNF in the 1930's-50's to reclaim abandoned agricultural lands, providing erosion control and a fast growing forest stock, but changing management objectives require that non-native forest species are managed with practices different from native forest stands. Hoosier National Forest (HNF) personnel use a shapefile outlining the extent of each forest stand to base management decisions. The goal of this project is to assess the accuracy to which the HNF stands database identifies conifers across the forest.

Findings and Deliverables: The analysis was conducted in the Tell City Management Unit (TCU) of the HNF. Of the 2,394 stands defined in the TCU, 909 are identified as containing conifers, covering about 70 km² (21%) of the study area. A total of 496 delineated conifer stands cover 52 km² (~16%) of the study area. The stands dataset is effective at including areas that contain conifers, but also identifies many areas that are not truly conifers (errors of commission). Overall accuracy of the pixel-wise error matrix is 87.1 percent indicating that any randomly selected conifer stand will be identified as a conifer within the stands dataset 87% of the time. This work is being published in *The Proceedings of the 17th Central Hardwoods Conference*, being held April 5-7, Lexington, KY.

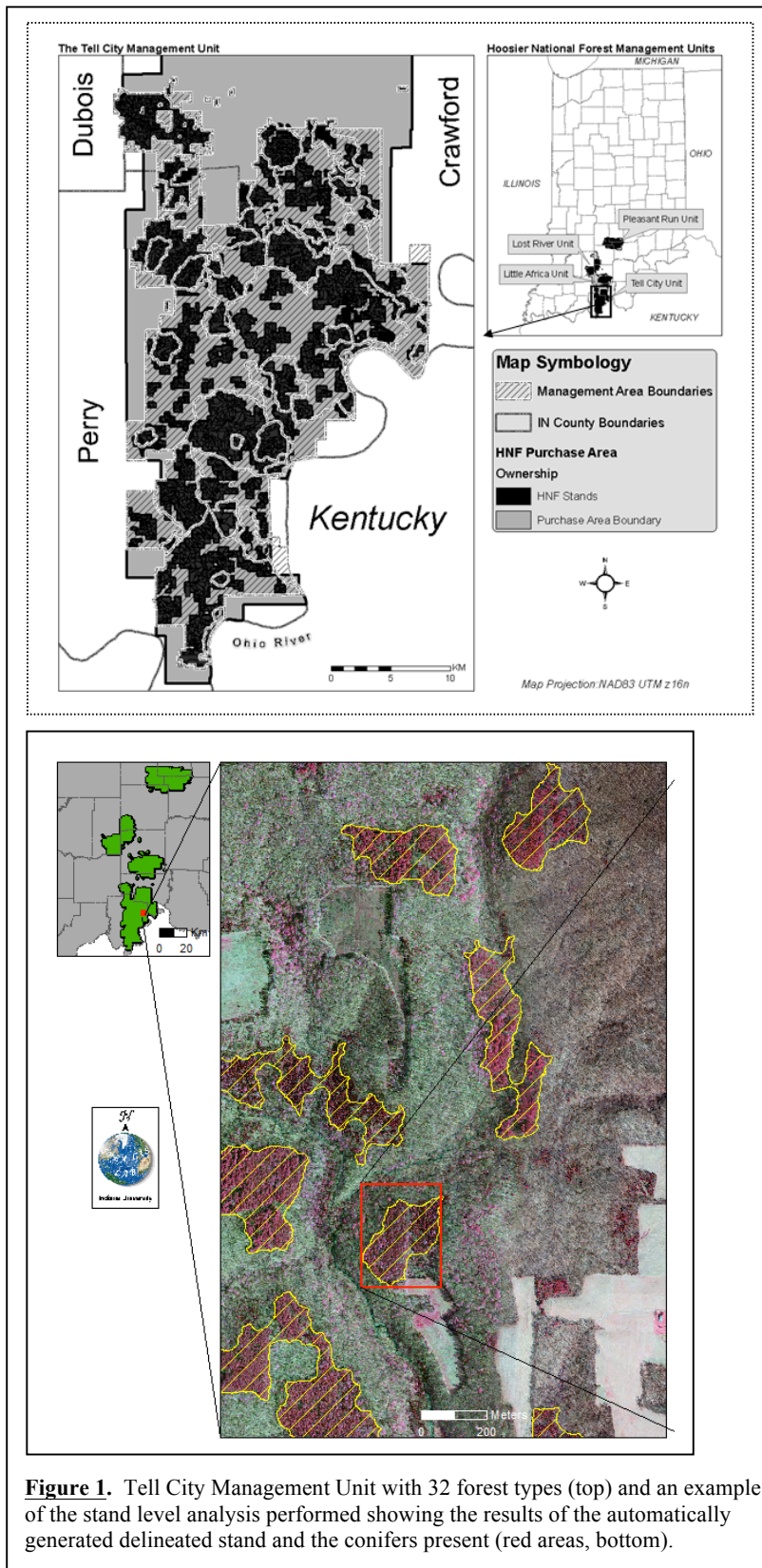


Figure 1. Tell City Management Unit with 32 forest types (top) and an example of the stand level analysis performed showing the results of the automatically generated delineated stand and the conifers present (red areas, bottom).