

A TECHNIQUE FOR MAPPING URBAN ASH TREES USING OBJECT-BASED IMAGE ANALYSIS

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Ash trees are an important resource in the State of Minnesota and a common fixture lining the streets of the Twin Cities metropolitan area. In 2009, the emerald ash borer (EAB), an invasive pest of ash, was discovered in the city of St. Paul. To properly respond to the new-found threat, decisionmakers would benefit from detailed, spatially explicit information on the urban ash resource. Although the Forest Inventory and Analysis (FIA) Program is responsible for inventorying the Nation's forests, it does not currently include tree-covered lands in urban areas unless they meet FIA's

definition of "forest." Because this definition includes minimum area, width, and density requirements, shade and boulevard trees are excluded from the inventory. Therefore, we investigate the use of remote-sensing procedures to supplement FIA inventory data. We present a technique for identifying ash tree canopies using eCognition Developer 8 image segmentation software and four-band high-resolution imagery. A fine-scale map of ash trees is produced for a study area in the Twin Cities.