

Assessing the Accuracy of a Regional Land Cover Classification

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ABSTRACT

The Southern Region USDA Forest Service recently completed the Southern Appalachian Assessment (SAA). The Assessment is a broad scale interagency analysis and sharing of existing information relative to the natural and human resources of the region. The SAA encompasses over 36 million acres extending from Northern Virginia to Northern Alabama. It was clear early in the Assessment that a uniform land cover data layer would be required to support analysis and modeling.

Pacific Meridian Resources (PMR), in cooperation with the Forest Service, developed a 16-class land cover map of the Assessment area. The classification included nine Anderson level 3 forest cover classes. Land cover polygons, based on a minimum mapping unit of two acres, were derived from the final pixel classification. This data set, in raster and vector formats, was provided to the Assessment participants as an input for deriving required products. The Forest Service took the lead in cooperation with PMR in conducting an accuracy assessment to validate the polygon land cover data theme.

A sampling design included aerial photo interpretation and ground examination phases was developed. During the aerial photo phase, data was collected on approximately 1500 sample polygons within 239 systematically distributed Primary Sampling Units (PSU's). Sample selection procedures were implemented that accounted for the skewed spatial and proportional distribution of the land cover classes within the Assessment area.

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