

Studying Baltimore Land Use Change

Community Update

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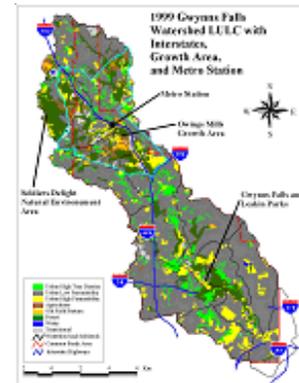
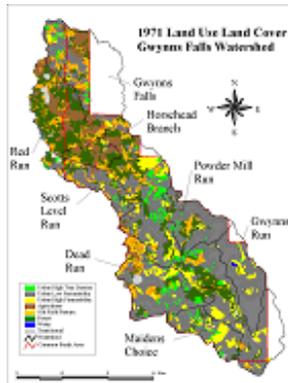
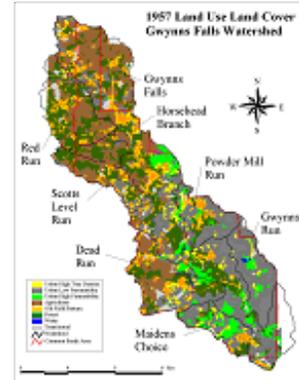
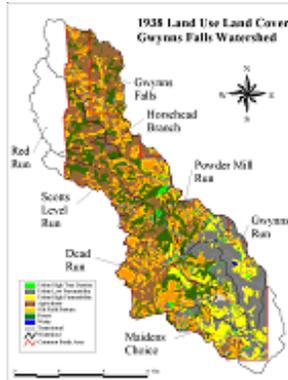
Baltimore Ecosystem Study: BES

WHY?

- To describe land cover change in the Gwynns Falls Watershed of Baltimore County, Maryland during the 20th century.
- To examine the interaction between biophysical and sociocultural processes in transforming the landscape.

HOW ?

- * We mapped land cover using air photos from 1938, 1957, 1971, and 1999. The minimum area mapped was 2½ acres.



During the 20th century, the Gwynns Falls Watershed transformed from an area covered by relatively equal proportions of Agriculture, Old Field/Pasture, Forest, and Urban-Low Permeability surfaces (that is, residential, commercial, or industrial areas with predominantly impermeable surface cover). Transitions in agriculture allowed the expansion of forest cover onto old fields, similar to the larger pattern seen throughout the eastern United States. Increasing development reduced and dispersed forest patches, potentially affecting forest species.

In 1979, Baltimore County drafted a master plan in part to concentrate growth in selected areas, while also conserving the natural features of these locations. A comparison of the 1971 and 1999 maps for the Gwynns Falls Watershed reveals the contrast in development occurring prior to the institution of the growth plan, and that occurring afterward within the Owings Mills area – a designated growth area. Forest, Agriculture and Old Field/Pasture are nearly absent south of the Owings Mills Growth Area, as seen in the 1999 map, while within the growth area the landscape contains all these elements and recalls the more evenly distributed 1938 landscape.

Two large areas of Forest cover remain in the Gwynns Falls at the end of the 20th Century: the large area within Leakin and Gwynns Falls Parks, and The Soldiers Delight Natural Environment Area. The preservation of both areas stemmed from human concern for the preservation of ecological functioning. The presence of these Forest patches demonstrates how sociocultural values, beliefs, and attitudes can affect vegetation cover and water quality within a human ecosystem.



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