

# Identifying Farmland Eligible for Preservation in Cumberland County, New Jersey

Advanced GIS Course (FNVI 3303)  
Instructor, W. Fan

## Introduction

The New Jersey Farmland Preservation Program was authorized in 1989 and relies heavily on preservation goals of state, county, and municipal government. The Program has one main geographic goal, which includes emphasis on preserving significant areas of contiguous farmland to promote the long-term viability of agriculture as an industry. Cooperation between municipal and county government is essential to the success of the program.

## Abstract

The purpose of this project was to identify farmland that has not been preserved, and then rank the unpreserved farmland based on current preservation criteria. A map of currently preserved farmland was obtained from the Cumberland County Agriculture Development Board, and using this map and recent land use, land cover data, the unpreserved farmland was identified. The identified farmland was then ranked using the preservation ranking criteria currently in use by the Cumberland County Agriculture Development Board. This project was successful in that, unpreserved farmland in Cumberland County was ranked appropriately. The results from this project can be used to identify unpreserved farmland in Cumberland County that should be preserved immediately and farmland eligible for preservation based on its preservation importance rank.

Environmental Studies Program, Richard Stockton College of New Jersey

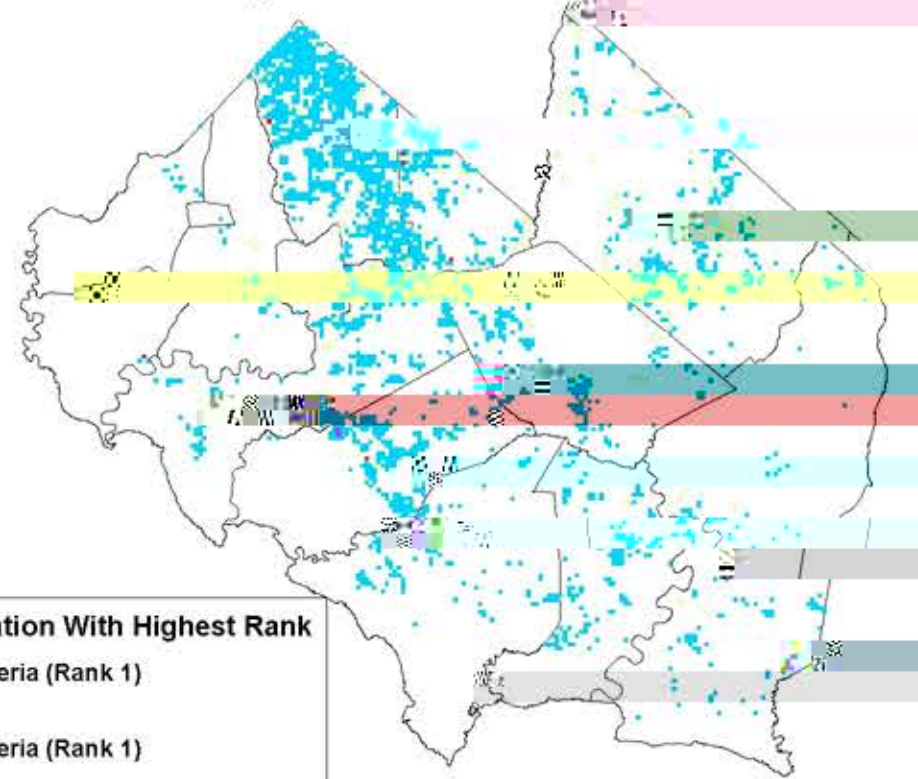
## Objective

The two objectives of this project were to identify farmland based on defined geographic criteria and to rank the identified farmland based on preservation importance using the current ranking system. The three main geographic criteria used in determining eligibility are: soil quality, acreage and land use, and bordering the farm.

### Farmland Eligible for Preservation



Farmland Preservation With Highest Rank



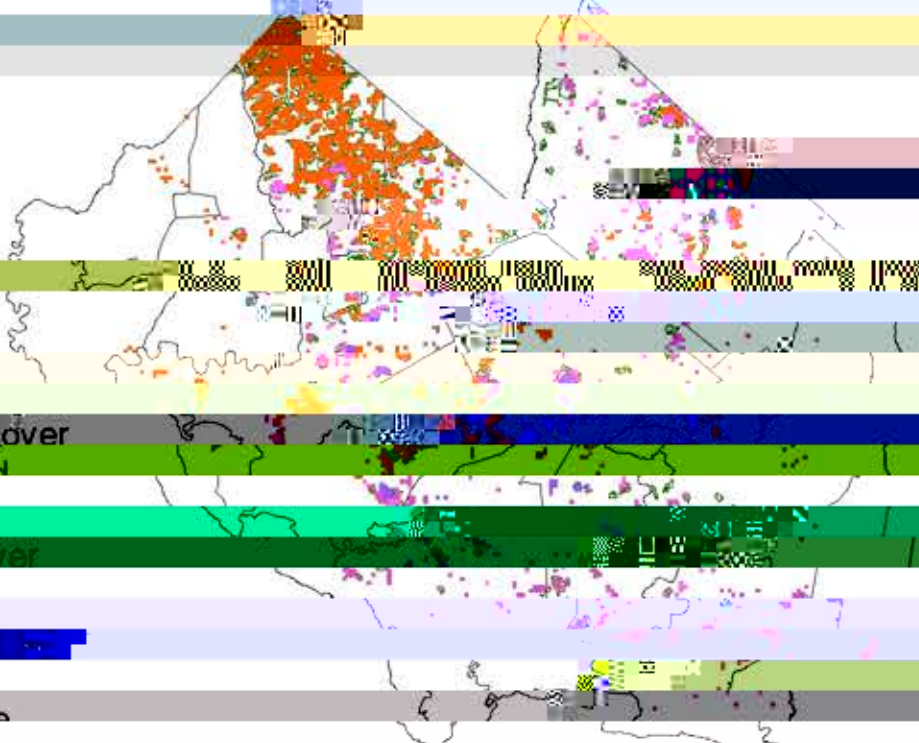
**Farmland Eligible for Preservation With Highest Rank**

- Farms 1/4 Mile of All Criteria (Rank 1)
- Farms 1/2 Mile of All Criteria (Rank 2)
- Farms Eligible for Preservation
- Above Average Size Farms
- Cumberland County & Municipality Boundaries

**Farmland Eligible for Preservation**

- Above Average Size Farms
- Unpreserved Farmland
- Cumberland County & Municipality Boundaries

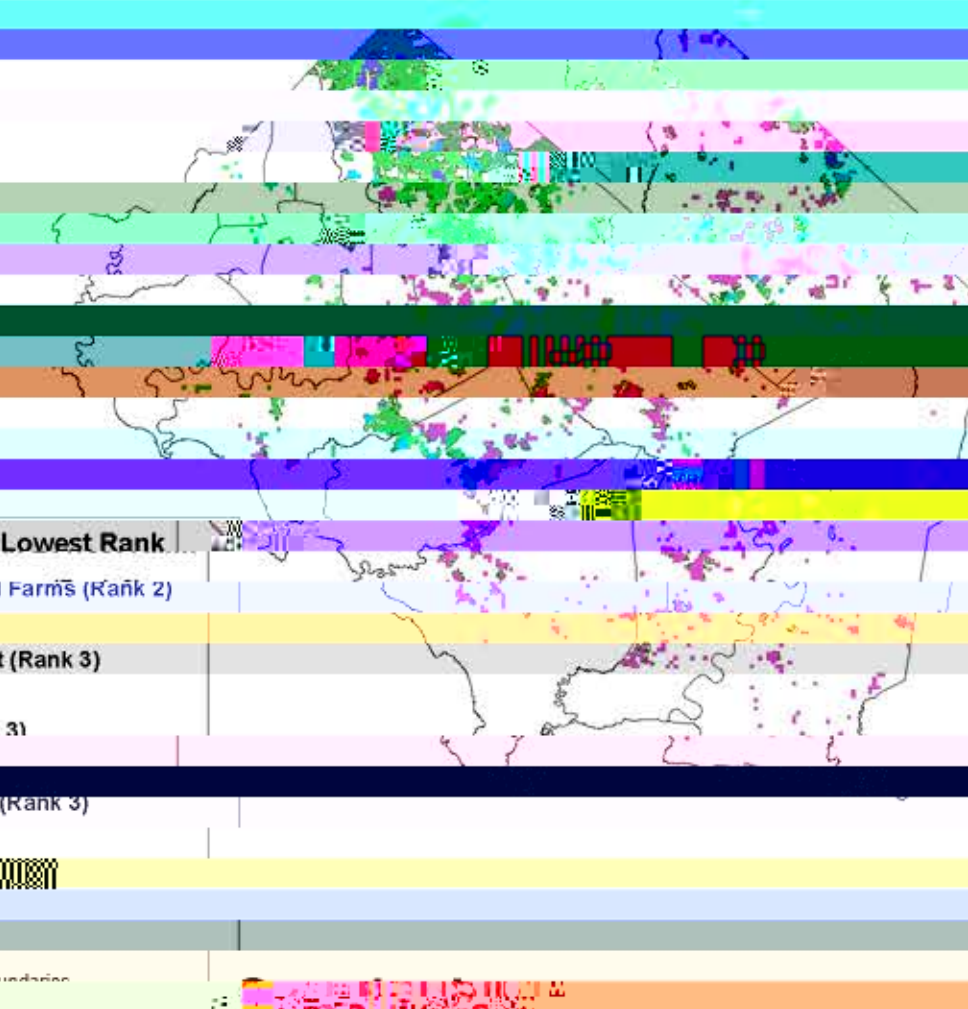
Farmland Eligible for Preservation With Medium Rank



Farms Eligible for Preservation With Lowest Rank

- Farms > 1/2 Mile From Preserved Farms (Rank 2)
- Farms > 1/2 Mile From Development (Rank 3)
- Farms > 1/2 Mile From Forest (Rank 3)
- Farms > 1/2 Mile From Wetlands (Rank 3)
- Above Average Size Farms
- Cumberland County & Municipality Boundaries

Farmland Eligible for Preservation With Lowest Rank



## Methodology

The data needed for this project included Cumberland County and Municipality boundaries, land use and land cover data from 1992, and Cumberland County roads, which were obtained from the GIS data base, and soils data and a map of currently preserved farmland, which were obtained from the Cumberland County Agriculture Development Board. The first step of this project was to identify the farmland in Cumberland County using the land use, land cover data. Then the currently preserved farmland was removed from the total farmland in Cumberland County. The unpreserved, above average size farms were identified using the land use, land cover data. The roads data and the currently preserved farmland were also used in this step. These farm borders were categorized into five distance categories from each border feature was then identified resulting in the maps of farmland eligible for preservation with the highest, medium and lowest ranks. As is delineated by all four maps, the greatest concentration of farmland eligible for preservation is in the North and West areas of the county.

Based on the results of this project, farmland eligible for preservation should be prioritized. The farmland with the highest rank should be preserved in the program. The farmland with medium rank should be prioritized as well. The farmland with the lowest rank should also be preserved but will be considered as landmarks for future preservation. The results of this project coincide with the main goal of the New Jersey Farmland Preservation Program and support the use of GIS to identify farmland. If the program is successful for these reasons, they could have been used as a model for Cumberland County and the use of a Cumberland County zoning map. The tax parcel map could have provided information useful to eliminating farmland not eligible for preservation if it is not located in the program. The use of GIS in farmland preservation will further support the program's goal.

0 140 280 560 Miles

**Farmland Eligible for Preservation**

- Above Average Size Farms
- Cumberland County & Municipality Boundaries