

## Prime Farmland Methodology Summary

**Background:**

Assessing the extent of farming on prime soils in the Bay watershed is a useful measure for determining the lands of highest importance for agricultural productivity and sustainability. Areas of intense agricultural activity on prime soils can be overlaid with maps of development pressure to prioritize agricultural preservation activities.

**Data Layers:**

STATSGO – Prime Soils

RESAC – 2000 Land Cover

- Excluded land cover classes: open water, emergent wetlands, urban development
- Agricultural land

DEM – Percent slope (slope > 8%)

**Methodology:**

Download STATSGO data from NRCS. Summarize and join the appropriate STATSGO tables to attribute the STATSGO polygons with percent prime soil information. Using a land cover grid of excluded lands, calculate the proportion of each STATSGO polygon that is likely to include prime soils. For each polygon, divide the percentage of prime soils by the proportion of the polygon area that could include prime soils, ensuring that resultant values do not exceed 100%. Convert the STATSGO polygon coverage to a raster grid based on the resultant values and multiply it by a binary grid of agricultural lands that fall within non-excluded lands. Summarize the output grid using a 1-square-mile-cell overlay polygon quadrant and convert the values to acres on the basis of cell size. This process attributes the overlay quadrant with estimates of the acreage of farmed land on prime soils.

**Example methodology diagram:**

