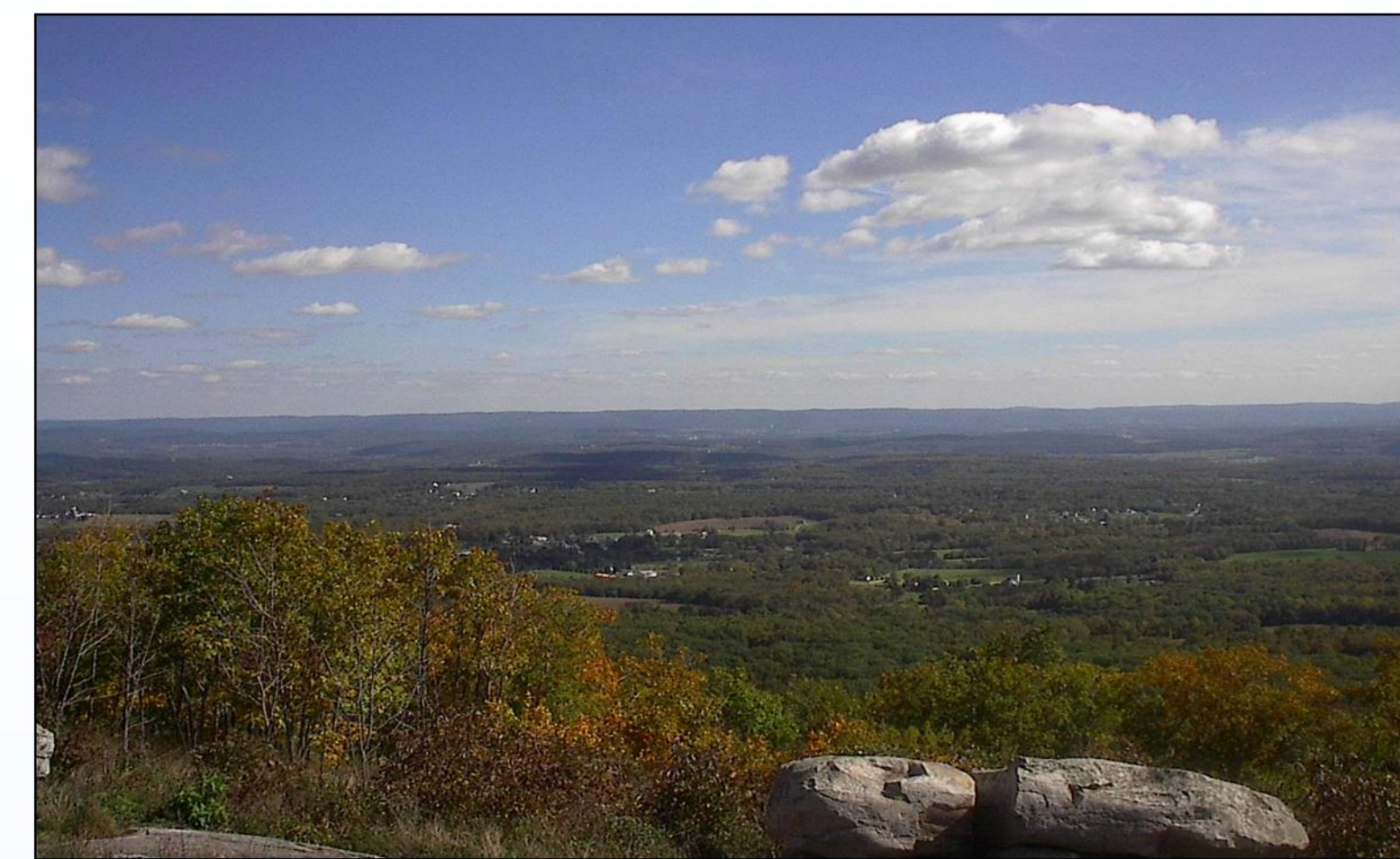




Non-Point Source Pollutant Analysis in the Papakating Creek Watershed *Sussex County, New Jersey* TMDL Implementation Methodology



MODEL APPLICATIONS

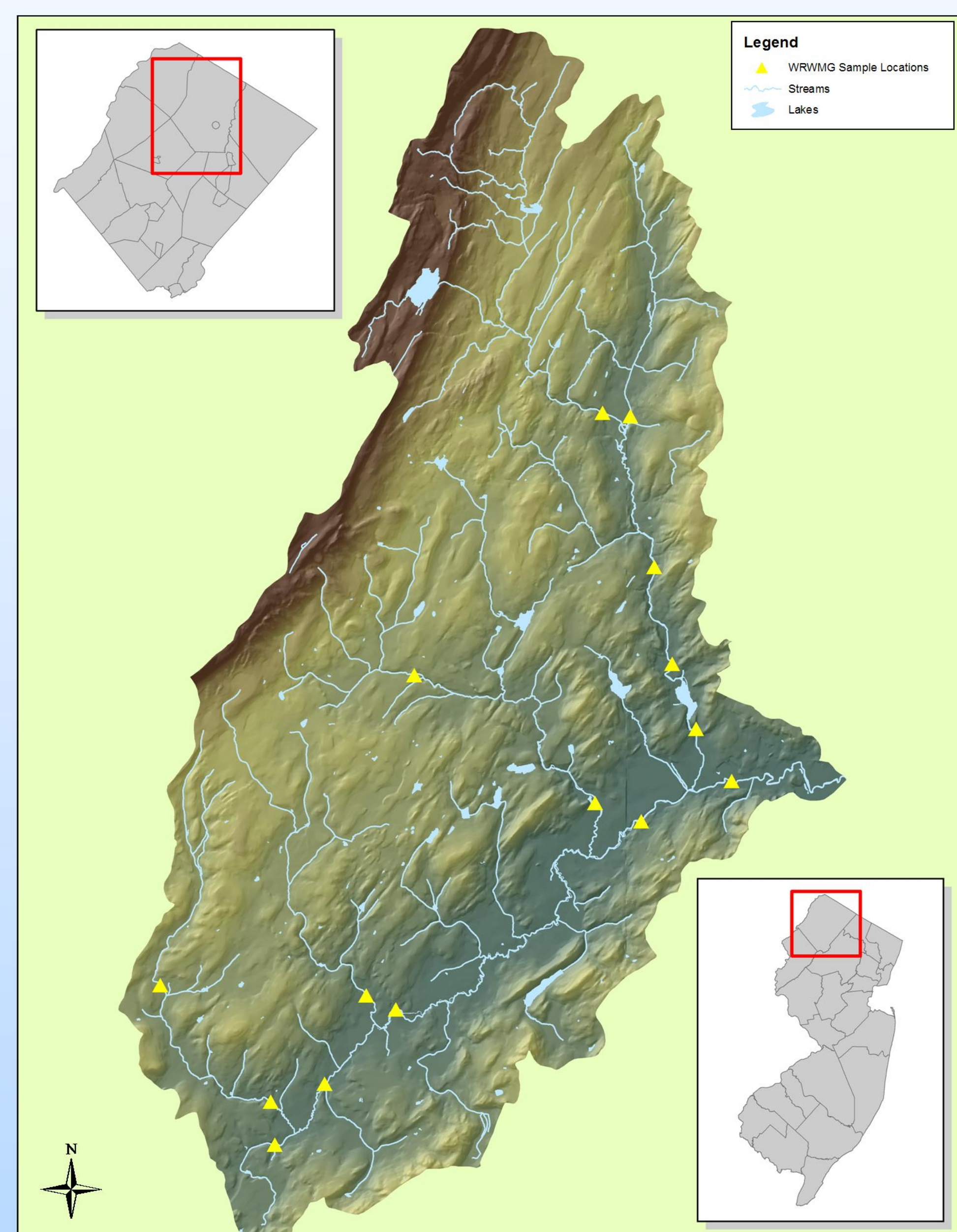
Estimating Annual Pollutant Loads
Conducting Loading Coefficient Sensitivity Studies
Prioritization of Non-Point Source Locations (Parcels)
Reality Testing Of Pollutant Reduction Goals
Impact of Zoning Changes
TMDL Development Tool

ABSTRACT

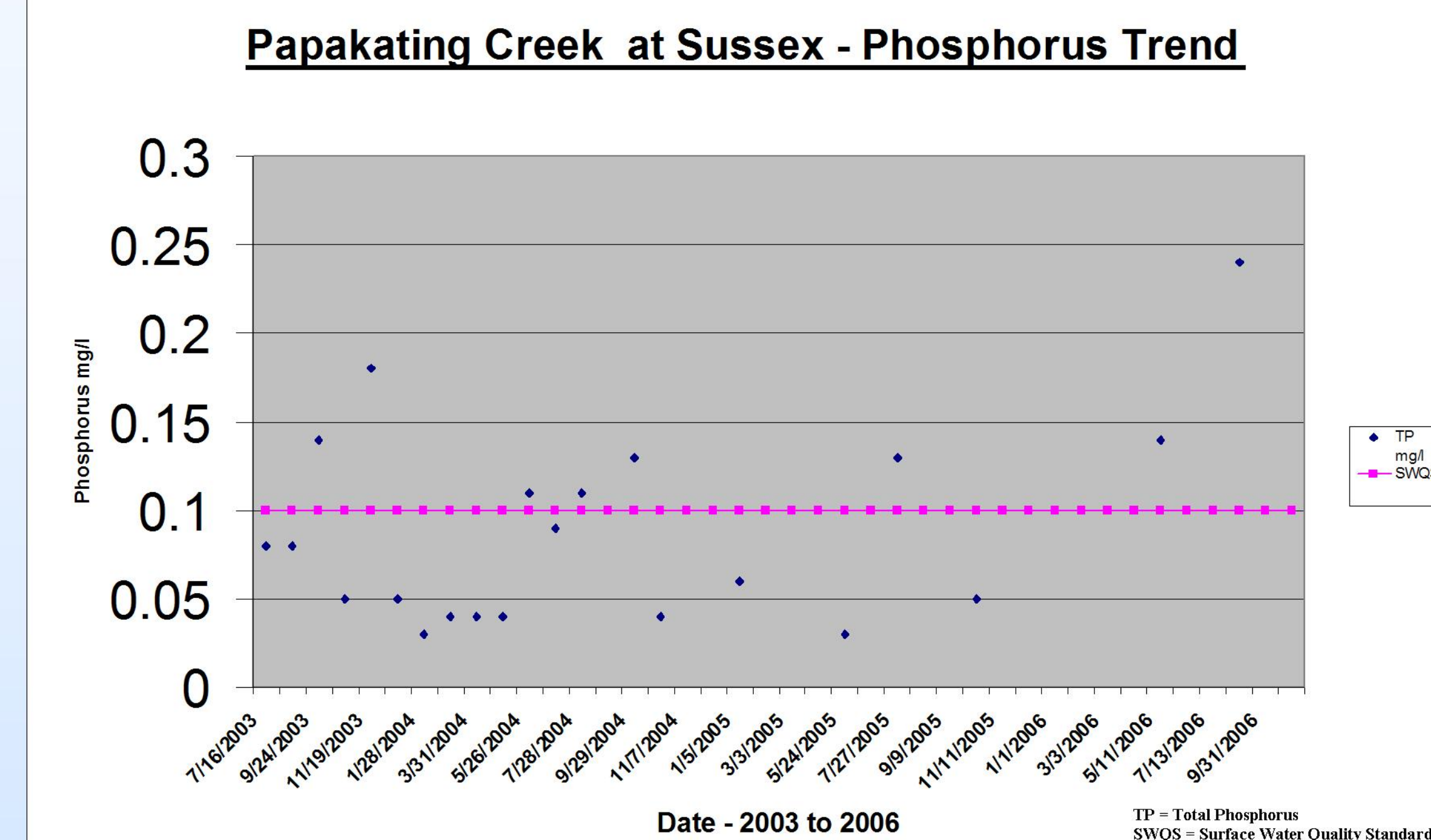
As part of the Wallkill River Watershed Management Group's (WRWMG) ongoing efforts to develop Restoration Plans for the Papakating Creek and Clove Acres Lake / Clove Brook Watersheds, under the guidance of the New Jersey Department of Environmental Protection, the WRWMG partnered with the Sussex County Office of GIS Management (SCOGISM) to develop a GIS-based methodology / model for estimating annual surface water pollutant loads using ESRI ArcInfo with Model Builder. The developed methodology is being used for the quantification of annual total phosphorus, nitrogen, and sediment loads for a watershed under present, future (100% build-out), future (following implementation projects), and natural state conditions for a single or multiple, contiguous HUC 14s sub-watersheds.

OUTPUT DATA APPLICATION: ESTIMATION OF ANNUAL POLLUTANT LOADINGS

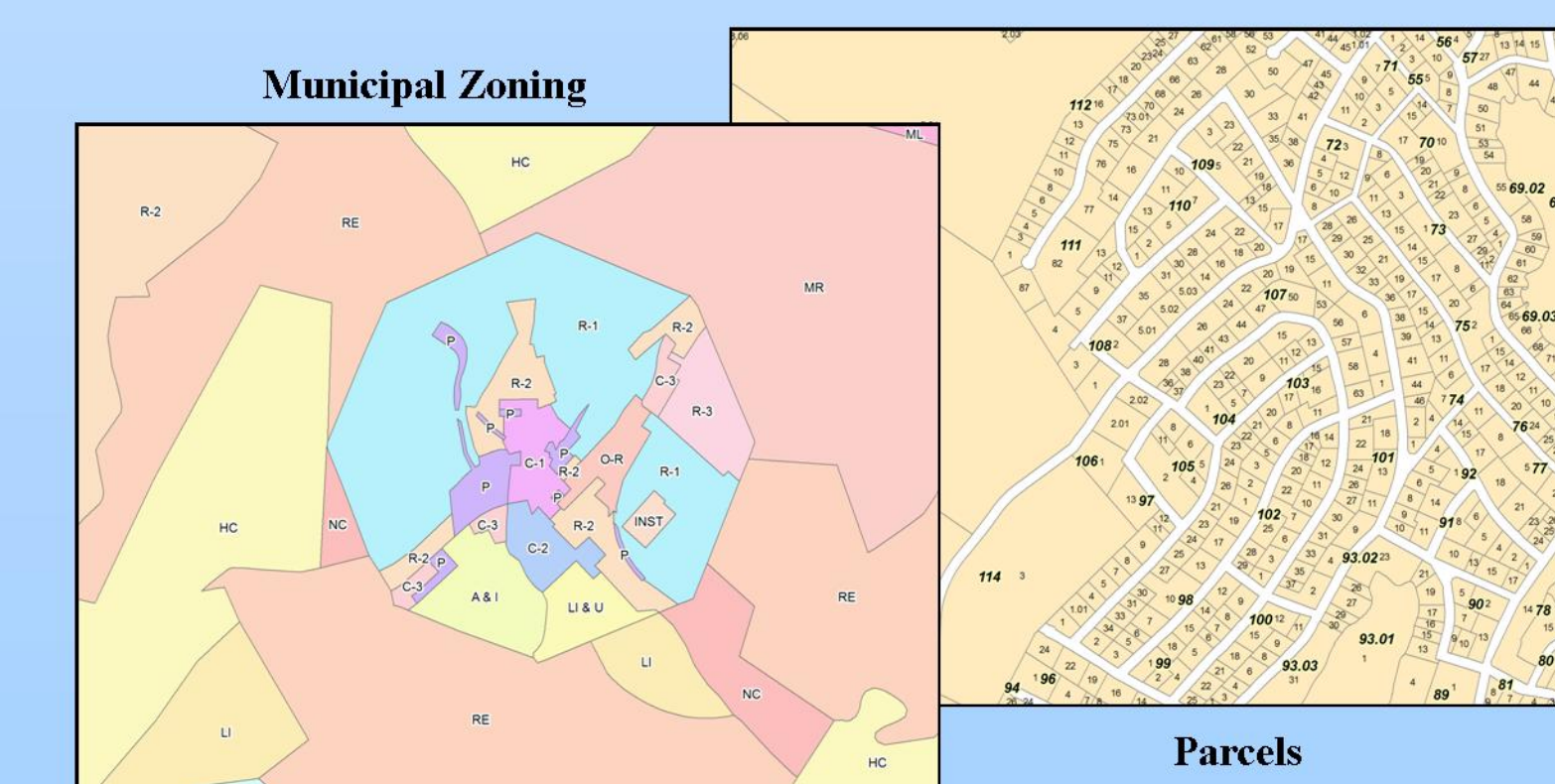
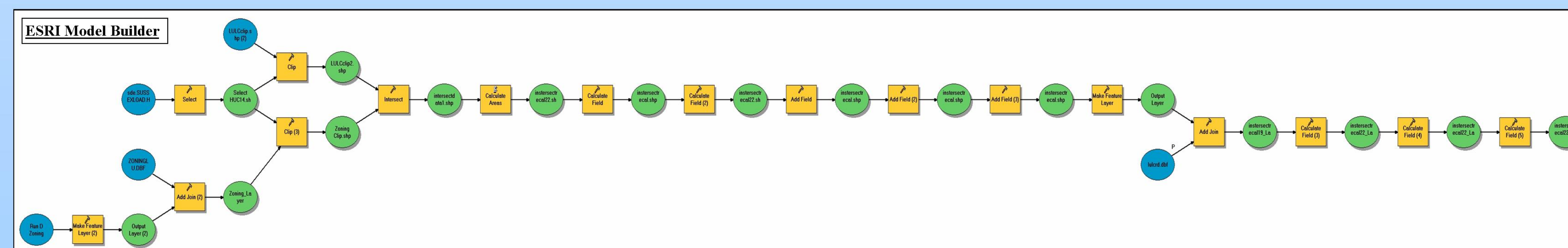
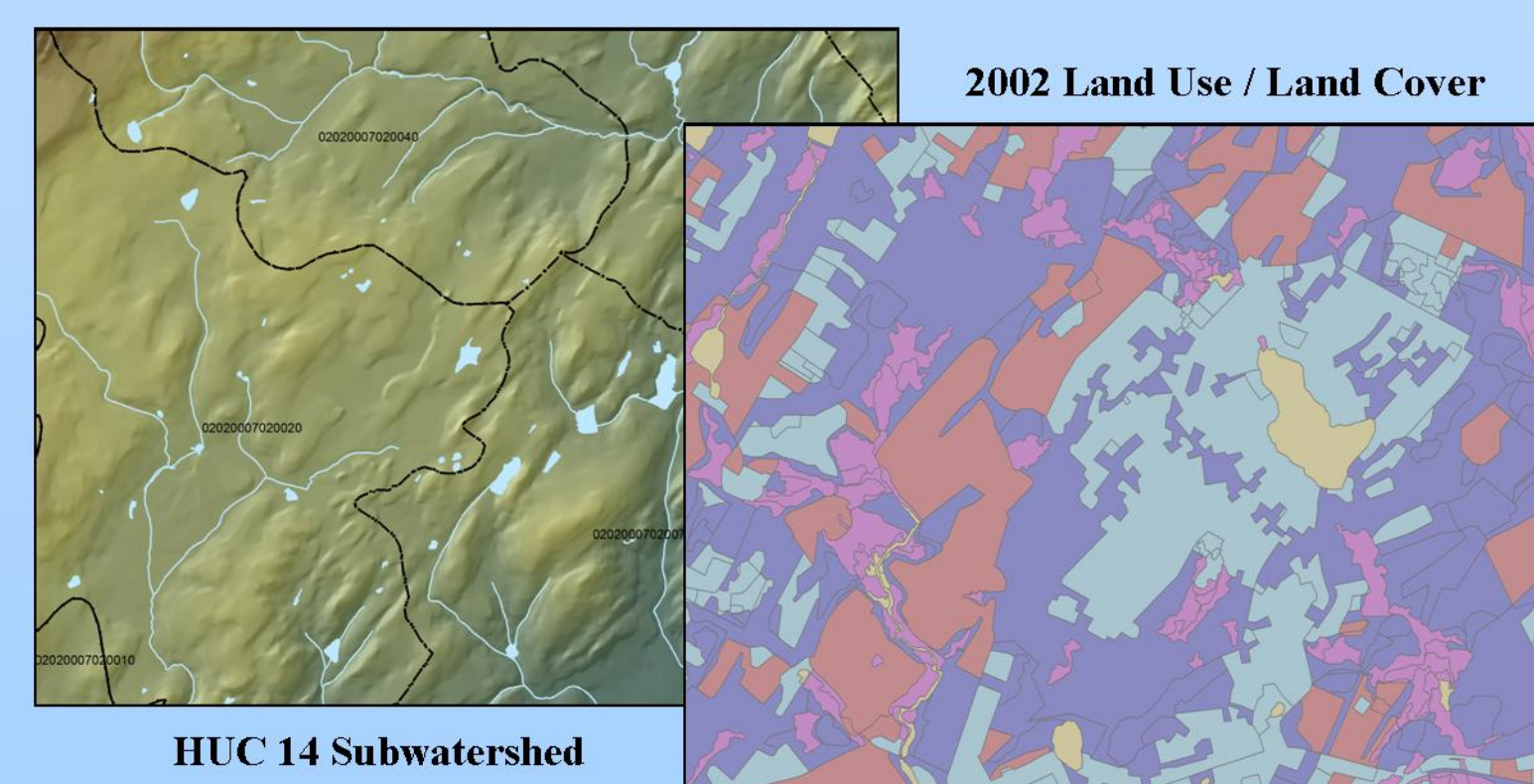
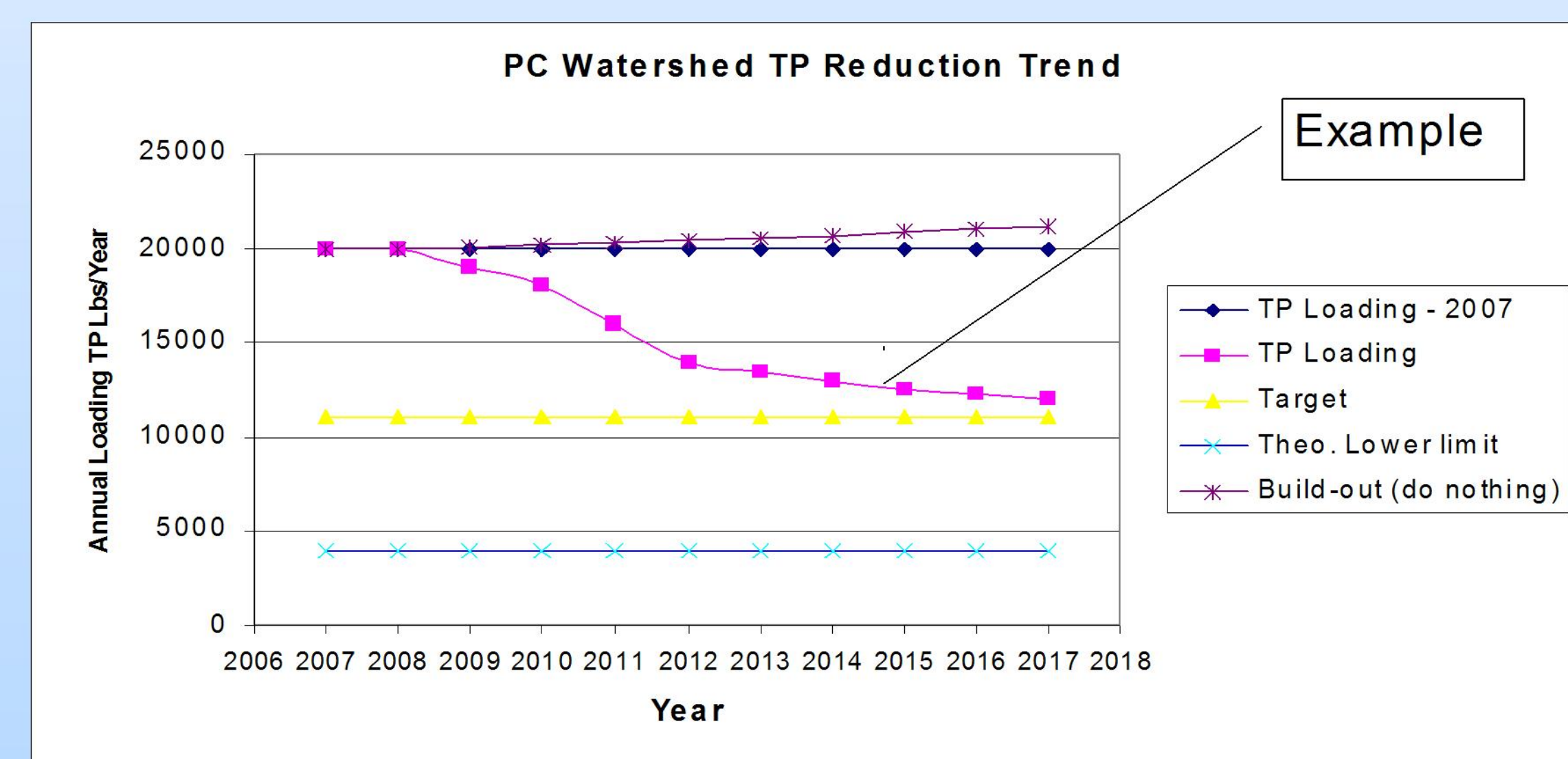
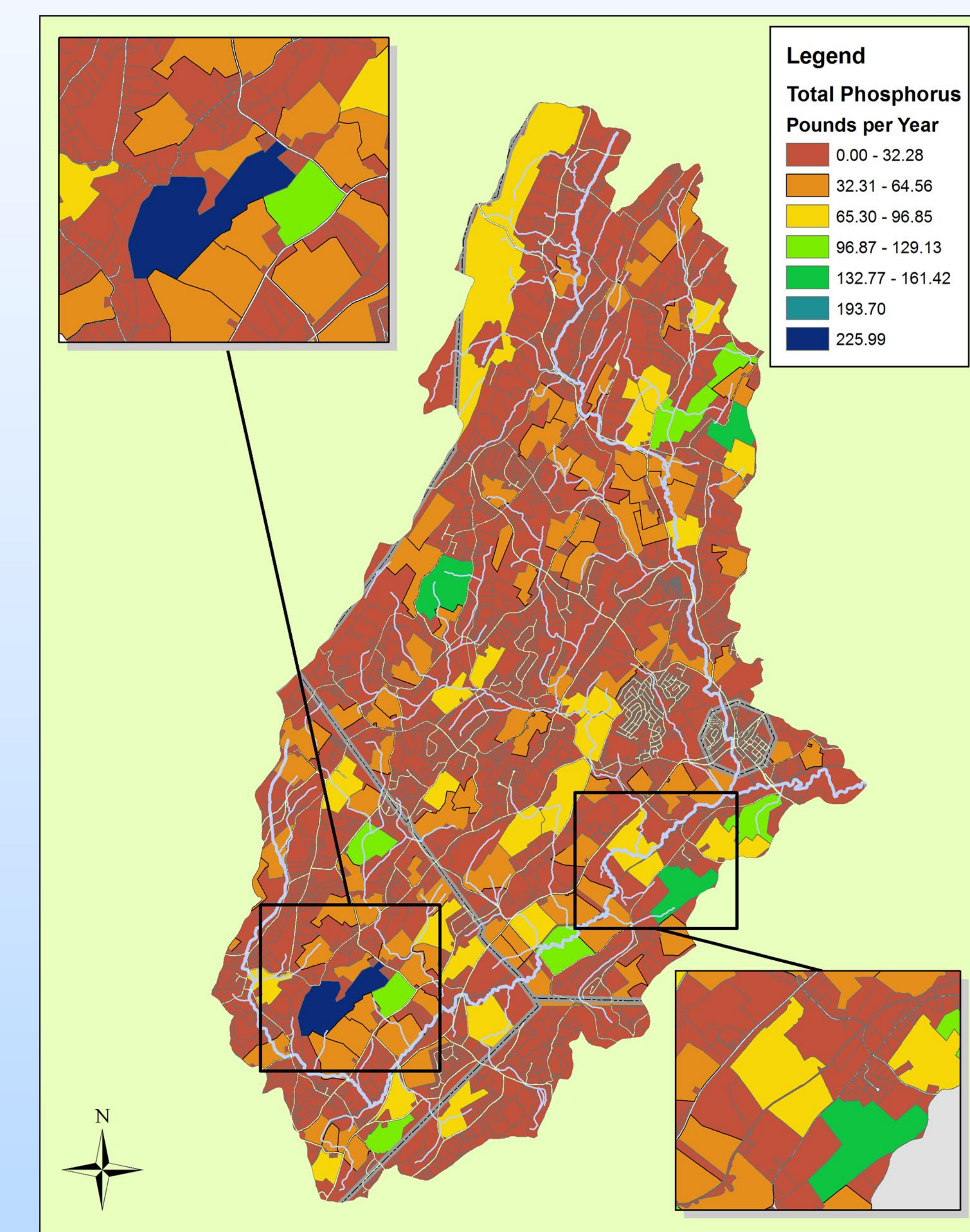
Total Phosphorus (pounds/year)
Nitrates (pounds/year)
Sediments (pounds/year)
Prioritization of Contributing Parcels



A
N
A
L
Y
S
I
S
T
O
O
L
S



B
M
P
S
T
R
A
T
E
G
I
E
S



PROJECT TEAM:
Concept:
Ernest Hofer, PE (WRWMG)
David Kunz, GISP (SCOGISM)
Nathaniel Sajdak (WRWMG)
Application Developers:
David Kunz, GISP (SCOGISM)
Sarah Weinrich (SCOGISM)

