

2026 Envirothon Oral Presentation Scenario

Nonpoint Source Mitigation-It Begins at Home!

Tom and his wife Kim's farming operation is in eastern Sussex County, Delaware and consists of 1,000 acres of moderately to well drained soils. They are poultry growers with four chicken houses, situated on 40 acres, and produce approximately 136,000 chickens per flock. The poultry headquarters contains a manure storage structure, a channel composter, and one heavy-use concrete pad in front of the shed. Their current crop rotation is 960 acres of grain crops, including corn, winter wheat, double crop soybeans, and hay. 750 of these acres are planted using conservation tillage practices where some residue is remaining on the soil surface. The remaining 210 acres are conventional tillage. Of the 960-acre grain crop rotation, 300 acres are irrigated through center pivot irrigation. Corn, winter wheat, and double crop soybeans are grown on the irrigated ground. Tom and Kim's farm is also located next to a subdivision, Sussex Ridge, that contains 150 single family homes, one infiltration basin, and one large wet pond. All maintenance falls on the subdivision's homeowner's association (HOA). Sussex Ridge is located on well-drained soils.

Both Sussex Ridge and Tom and Kim's farm drain to a tidal branch that outlets into the Delaware Bay. The tidal branch is classified as an impaired stream due to its high concentration of nutrients. The mayor of their town has enacted an environmental action plan to protect the natural resources, including the impaired tidal branch and the Delaware Bay.

In their effort to be good stewards-of-the-land, good neighbors, and accomplish their goals, Tom, Kim, and the Sussex Ridge HOA have turned to the Sussex Conservation District (SCD) for technical assistance. The SCD has Conservation Planners on staff to assist with recommending best management practices (BMPs) that will help them accomplish the new requirements set in the environmental action plan.

As Conservation Planners with SCD, it is your job to work with Tom, Kim, and the Sussex Ridge HOA to explain what Nonpoint Source (NPS) pollution is, identify its sources from the two different land use types in this scenario (urban and agricultural), suggest BMPs that can address these sources of NPS pollution, and the communication strategy for the different BMPs to help protect the tidal stream and Delaware Bay.