

28

EHT

Judging Dept.

Michelle Dross

Student

EHT

2

Lloyd Wilson, PhD

Dept or Program Years in program

Mentor

Summary Report and Analysis of the Source Water Assessment Program (SWAP) in New York State

Author (s)

Michelle Dross

In 1996, Congress added the Source Water Assessment Program (SWAP) to the Safe Drinking Water Act, requiring every state to "evaluate the sources of water that are used to supply public drinking water." The goal of this program was to determine the risk of potential contamination to the water sources by various chemicals and microorganisms. The purpose of this internship was to analyze the final results of SWAP in New York State to create a summary report of the NYS-SWAP. Random samples of surface and ground water assessments were analyzed, and greatest potential contamination threats were identified. In the surface water sample microbial contamination was the greatest threat due to using the land for pasture and high intensity residential purposes, and the presence of permitted discharge facilities and landfills. Among the ground water sample the biggest potential contamination threats due to land use was microbials and nitrates. The greatest potential contaminants due to the presence of other potential sources were enteric viruses, nitrates and enteric bacteria. The strongest driver was the presence of SPDES facilities (permitted discharge facilities). In conclusion, this data is extremely qualitative and crude and these results need to be cautiously interpreted. Some assessments were done based scarce data and the risk of contamination was overestimated, causing information bias and misclassification. Due to the initiation of SWAP, the public can be assured that drinking water sources in New York meet quality standards and are at a low risk of contamination.