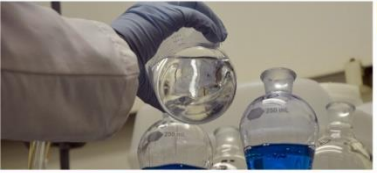

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Benner Township PFAS Investigation

Township Supervisors Meeting

Benner Township, Centre County

November 1, 2021

Tom Wolf, Governor

Patrick McDonnell, Secretary

Background for Investigation

PFAS – What Are They and Where Are They Used?

PFAS (per-and-polyfluoroalkyl substances) are a class of emerging contaminants of concern in the US.

PFAS compounds have been widely used in industry and are present in a variety of commercial and household products, such as certain fire fighting foams, Teflon and fabric or carpet protectant.

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PFAS-Containing Products

Source: riversideca.gov

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PFOA/PFOS Uses

PFOA (perfluorooctanoic acid) was banned in over 180 countries in 2019. It was most commonly used as an industrial surfactant in chemical processes.

PFOS (perfluorooctane sulfonic acid) was primarily used in stain repellents.

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PFAS Concerns

In the early 2000s, US EPA became aware of potential human health concerns related to exposure to PFAS compounds.

While the toxicity of PFAS compounds is the subject of ongoing scientific studies, it is suspected as a potential carcinogen and general health hazard.

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PFAS Exposure

PFAS compounds are known to be persistent in the environment and resistant to typical degradation processes.

PFAS compounds may be ingested through groundwater drinking water supply wells.

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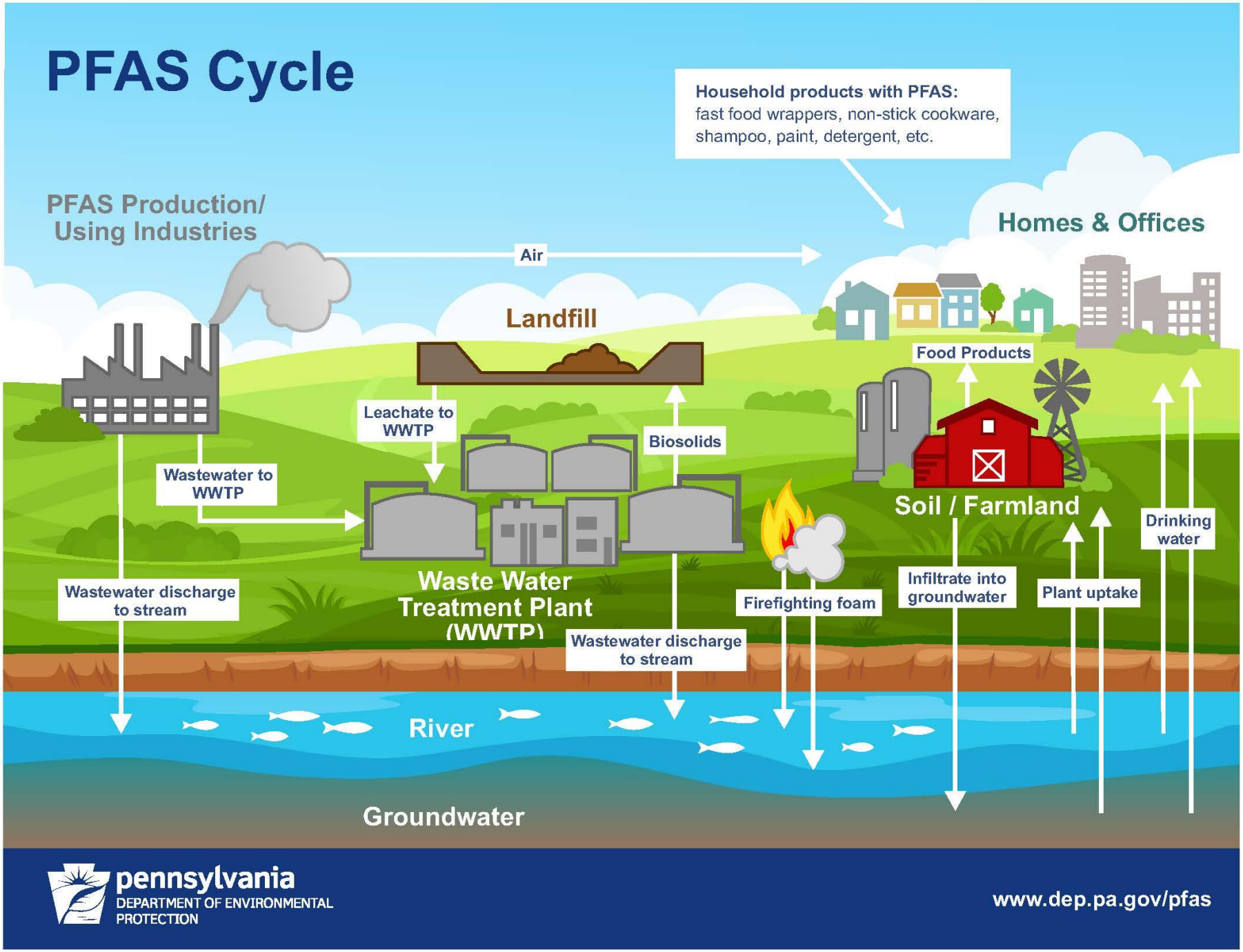
PFAS Cycle


Household products with PFAS:
fast food wrappers, non-stick cookware, shampoo, paint, detergent, etc.
PFAS Production/ Using Industries
Homes & Offices
Air
Landfill
Food Products
Leachate to WWTP
Biosolids
Wastewater to WWTP
Soil / Farmland
Drinking water
Wastewater discharge to stream
Waste Water Treatment Plant (WWTP)
Firefighting foam
Infiltrate into groundwater
Plant uptake
Wastewater discharge to stream
River
Groundwater
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www.dep.pa.gov/pfas

PFAS – EPA HAL

2016 – EPA set the lifetime combined Health Advisory Level (HAL) of 70 Parts Per Trillion (ppt) for 2 PFAS compounds (PFOA and PFOS – the two most studied compounds).

DEP has evaluated the available information to develop and propose PA drinking water limits.

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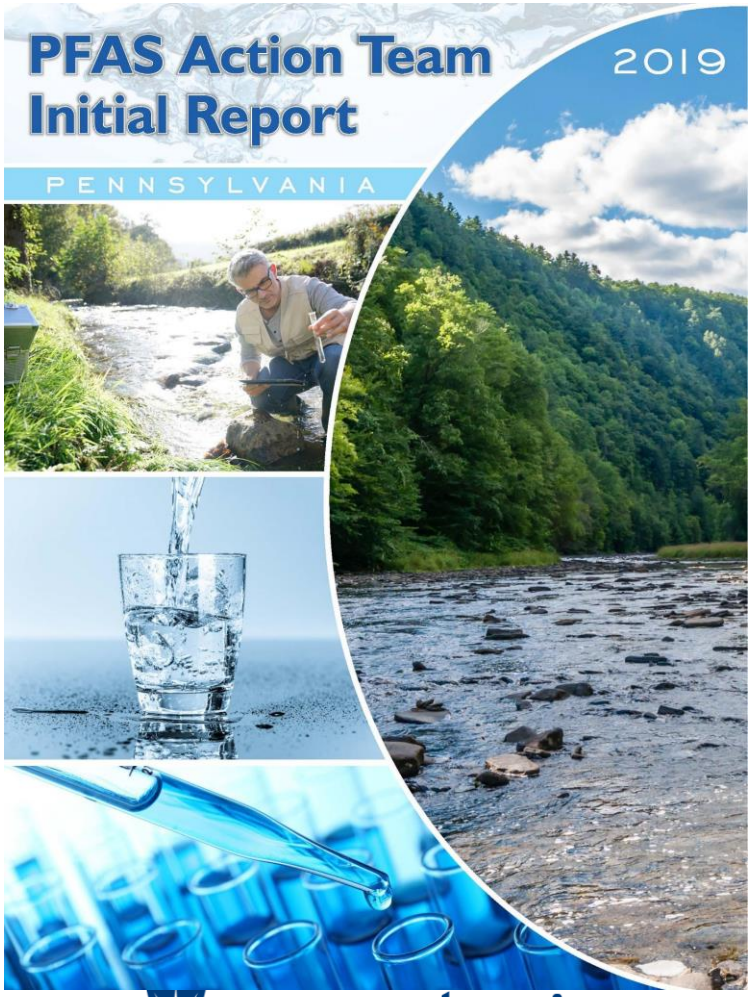
PA PFAS Action Team

- 2018 Governor forms Pennsylvania PFAS Action Team with representatives of many commonwealth Departments.
- 2019 Action Team produces initial Report with actions and recommendations, including sampling of water supply wells.



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PFAS Investigation

Discovery in Benner Township

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PFAS Discovery and Confirmation

- 2019 – DEP's Safe Drinking Water Program began a study by sampling regulated water supplies near potential PFAS sources.
- State of the Art well was found to contain PFAS concentrations greater than EPA's HAL.
- Follow-up testing verified the presence of PFAS
- DEP's sampling of 2 additional nearby water supplies also resulted in discovery of PFAS levels above the HAL.

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PFAS Investigation - HSCA

- Following confirmation of PFAS in groundwater, DEP initiated a Hazardous Site Cleanup (HSCA) funded investigation to identify potential sources, determine the extent of the plume, characteristics of groundwater flow, and to identify any potential receptors.
- HSCA contractor conducted site reconnaissance and has developed an initial plan for soil sampling in strategic locations.

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PFAS Investigation – AFFF Usage

- DEP followed up with Penn State University (PSU) regarding FAA mandated use of AFFF (aqueous film forming foam) fire-fighting foam at the University Park Airport.
- PSU proceeded to conduct sampling of accessible groundwater monitoring wells located on airport property and collected soil samples as part of a construction project.
- Well and soil sampling confirmed the presence of PFAS, with one well exceeding the HAL.

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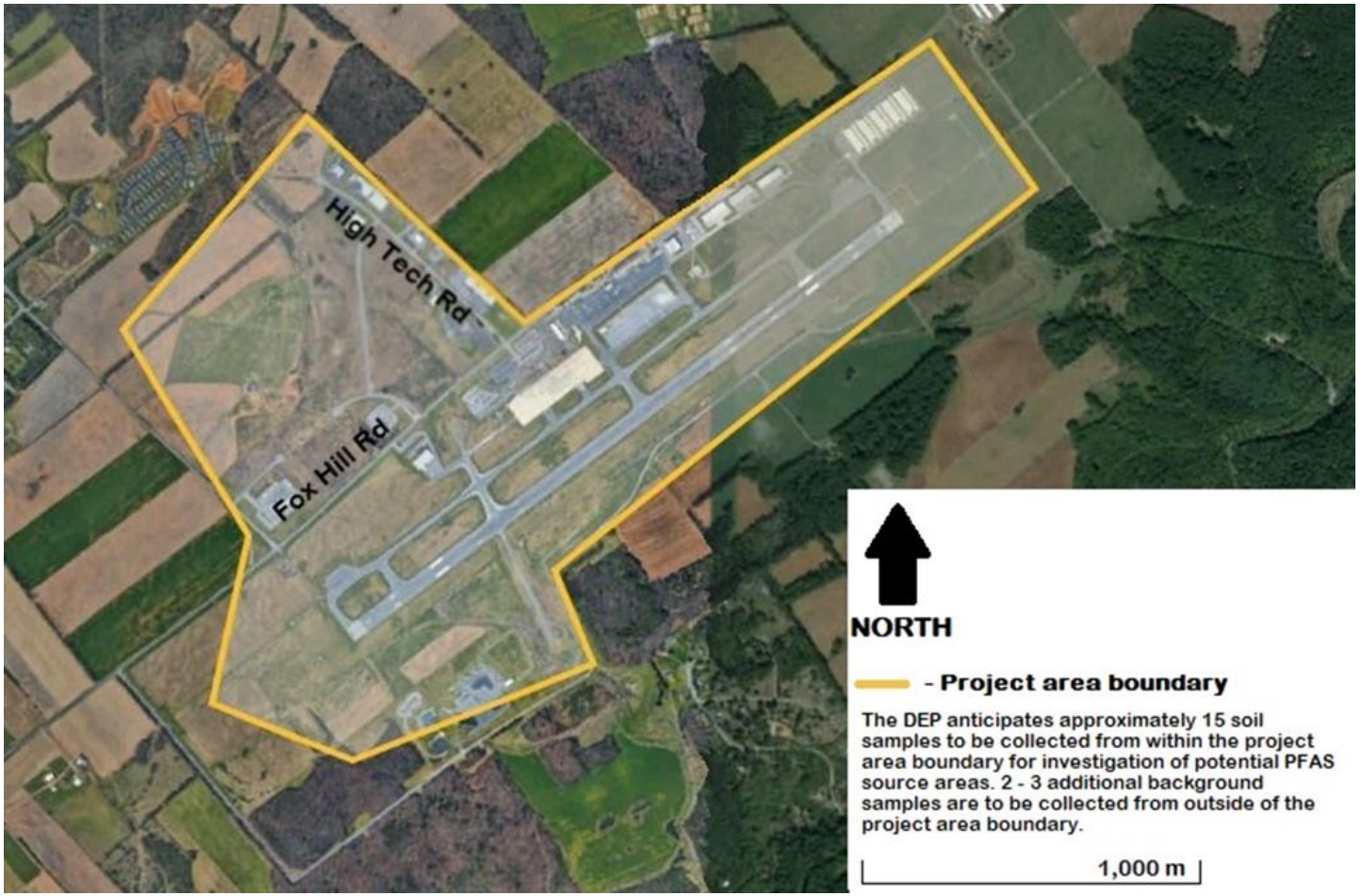
PFAS Investigation Focus Area



Focus area of investigation in vicinity of
High Tech Road and University Park Airport

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PFAS Investigation Goals

- First step of soil sampling is intended to pinpoint potential source areas related to use of PFAS-containing materials in manufacturing as well as AFFF fire-fighting foam testing.
- Soil sampling to be conducted at University Park Airport as well as planned locations where PFAS compounds may have been used in past operations (uses include electronics, plating and biotechnology applications to name a few).
- DEP targeted soil sampling to be conducted by the end of 2021

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PFAS Investigation Challenges

- Current Regulatory Status/Lack of standards for many PFAS compounds (PA DEP is proposing standards for several compounds at this time)
- Lack of approved analytical methods
- Risk of cross contamination
- Limited lab capacity
- High analytical costs
- Very little toxicity information
- Evolving remedial technologies
- Limited disposal and treatment options

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PFAS Investigation – Next Steps

- Determine/verify potential source areas
- Develop a plan for installation of groundwater monitoring wells and sampling of surface water points.
- Selected sampling of private water supplies in potential exposure areas
- Evaluate sample information to determine any receptors
- Propose mitigation measures for groundwater users, as needed

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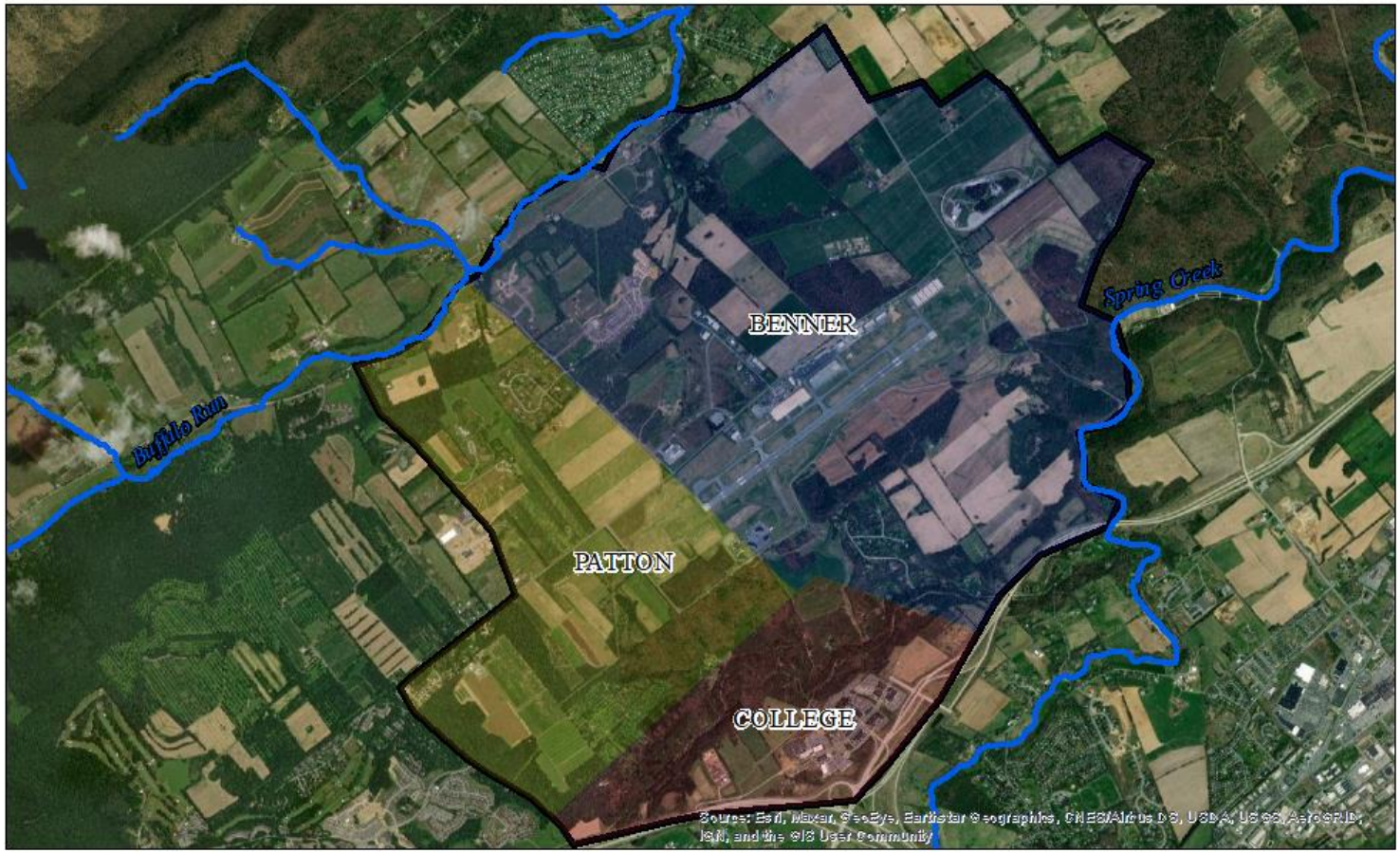
PFAS Investigation – Water Sampling



Focus area of private water supply wells to be sampled in Benner, Patton and College Townships

Legend
- Investigation Area
- DCNR PAMAP Hydrography (2007)

Municipalities
- BENNER
- COLLEGE
- PATTON

0 0.375 0.75 1.5 2.25 3 Miles

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Questions?

Any Questions?

Any questions or concerns may be addressed to Northcentral Regional DEP office in Williamsport. Please contact John Ciccone at jciccone@pa.gov or 570-321-6594 ; or Cheryl Sinclair at csinclair@pa.gov or 570-327-3418.

Or visit our informational web page at:
https://www.dep.pa.gov/About/Regional/North-central-Regional-Office/Community-Information/Pages/Benner-Township-HSCA-Investigation.aspx

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