

**Shapiro Environmental
Law Symposium:
Advanced Monitoring, Remote
Sensing, and Data Gathering,
Analysis and Disclosure in
Compliance and Enforcement**

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Case Study:

Citizen Monitoring of Industrial Animal
Farms on Maryland's Eastern Shore

Chicken Waste

- Maryland produces over 300 million chickens per year at ~600 CAFOs clustered on Eastern Shore.
- Stored and applied to cropland, often untreated and at levels that far exceed the fertilization needs of crops.



Limited State Oversight

- Maryland Department of the Environment (MDE) has faced yearly funding cuts
- State waiving CAFO permit fees to “encourage” participation = ~\$500,000/year
- 3 employees to inspect the nearly 600 CAFOs.



Lots of Data on Performance...

- CAFOs submit sufficient data to the state to enable more efficient compliance monitoring with fewer on-the ground inspections.
 - Nutrient management plans
 - Annual implementation reports

...Not Enough Resources to Process Data

- Forms are on paper. It takes the agency 3 years to enter information into Excel.



Citizen Monitoring

- Submitted public-information requests for plans and reports from all CAFOs in Maryland.
- Do what state can't do—use information to ensure Maryland CAFOs are following law

Findings

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Underreporting

- Reports were not available for 14% (58 of 407) of the poultry facilities operating in 2012

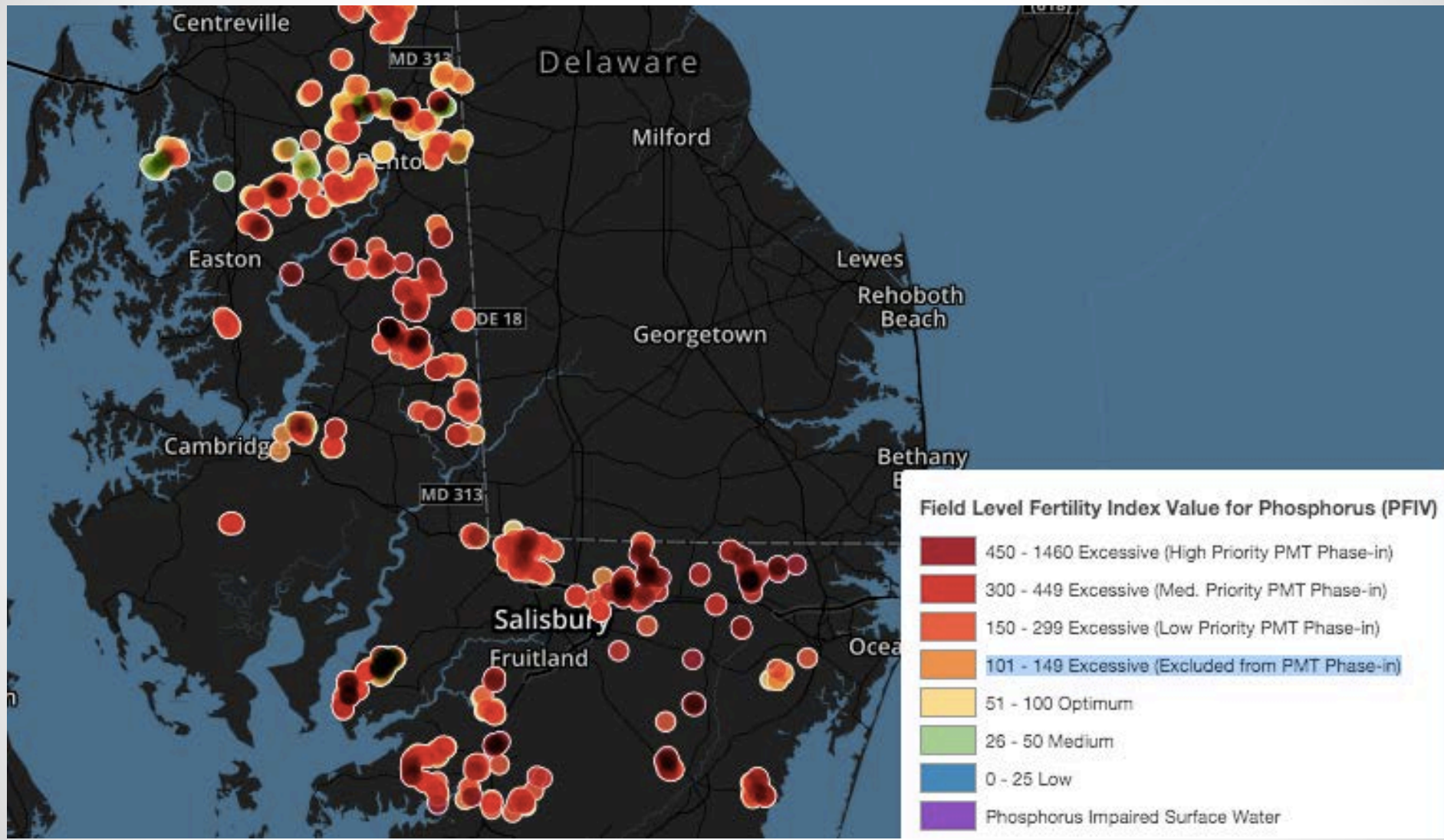
Enforcement

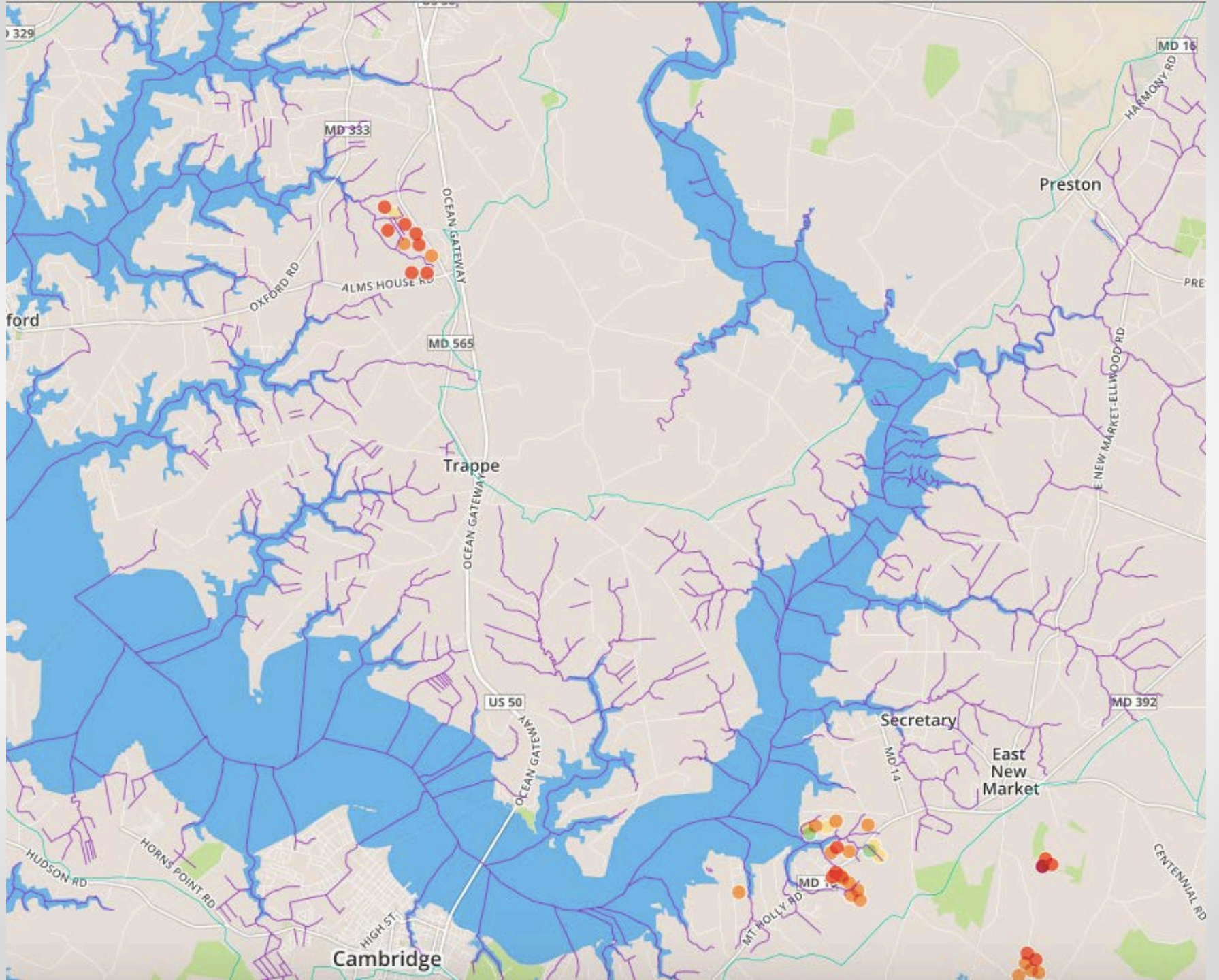
- Letter to MDE on July 4; MDE started sending out notices of violation a week later for the very first time.



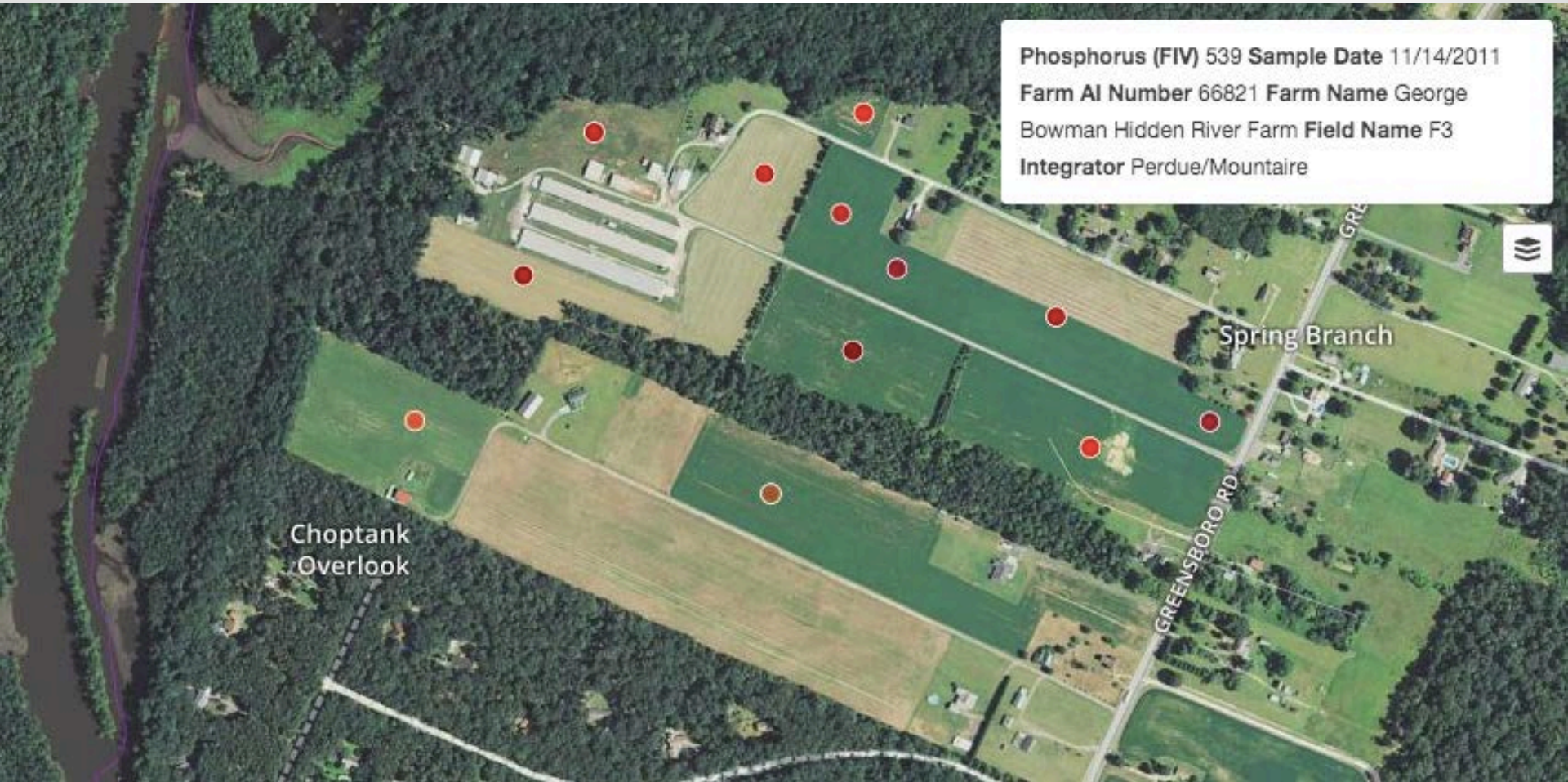
Oversaturation

- Plans contain soil phosphorus levels at field-level
- Found “excessive” soil P levels at all but one of 60 CAFOs in 6 counties due to manure usage.
 - Excessive tells farmers to stop applying manure
- Mapped fields





Phosphorus (FIV) 539 Sample Date 11/14/2011
Farm AI Number 66821 Farm Name George
Bowman Hidden River Farm Field Name F3
Integrator Perdue/Mountaire



Choptank
Overlook

Spring Branch

GREENSBORO RD

Overapplication

- We also analyzed annual reports to look at application of manure on these fields.
- Poultry farmers spread three times more P on their fields in 2012 than their crops needed

Results

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Enforcement

- MDE started fining CAFOs for failure to report

Regulation

- We timed our findings to coincide with release of a new regulation in Maryland to better manage phosphorus application.

Litigation

- Potential if manure application exceeds plan/permit requirements



A photograph of a large number of yellow chicks in a dark brooder. The chicks are densely packed and fill the foreground. In the background, there are several rows of warm, glowing lights that create a sense of depth and perspective. The overall atmosphere is dark and focused on the chicks.

Questions?