

A Tale of Cows, Dogs, Sewage and Cooperation



Solving Problems in Lime Lake

Molly Rippke – Michigan EGLE

4/6/1999

1999

Tamarack Rd

Elm Rd

127

Young Dr

Senore Dr

Lime Lake

Zimmerman Dr
Image U.S. Geological Survey

Prattville Rd

Meridian Rd



8/27/2005

2005

Tamarack Rd

Elm Rd

127

Young Dr

Senore Dr

Zimmerman Dr

Lime Lake

Image USDA Farm Service Agency


Prattville Rd

Meridian Rd





“All I want for Christmas is
manure laden water”
-says no one ever

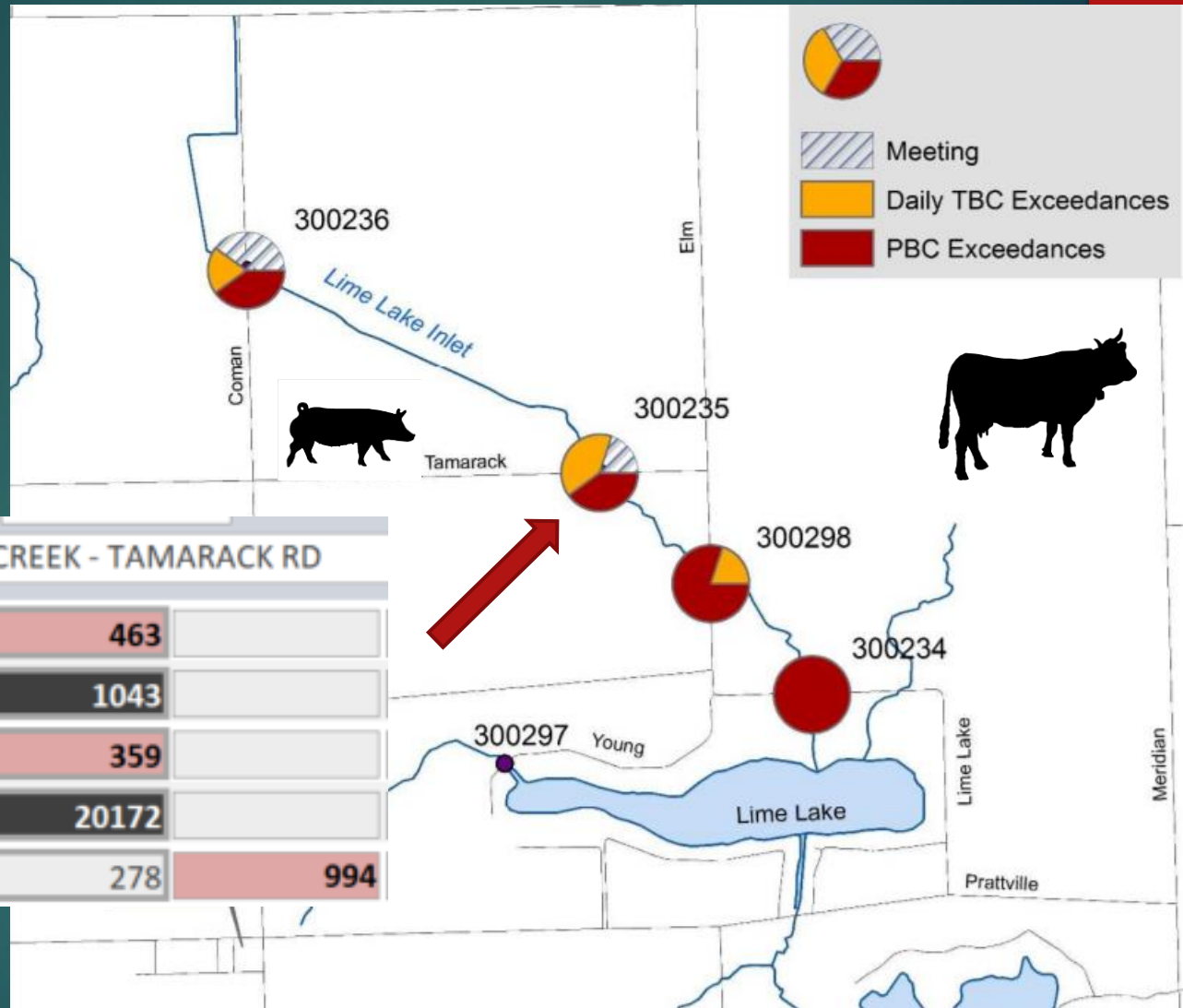


Between 2001 and 2009,
my agency documented
49 separate discharges of
Vreba-Hoff waste to
surface waters of the
state.

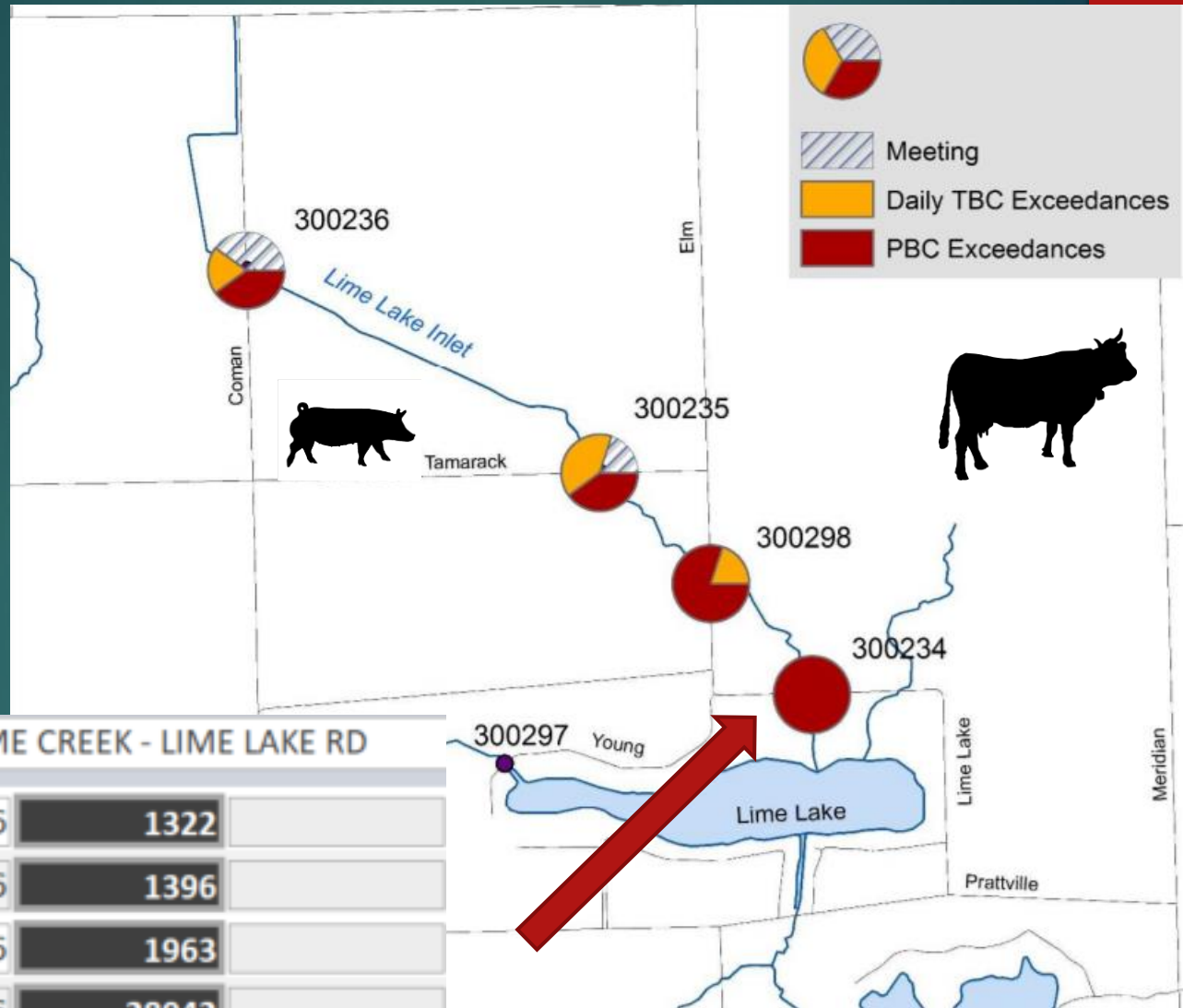
Water Quality History of Lime Lake

- ▶ The 2003 E. coli TMDL identified sources as:
 - ▶ raw sewage discharges from Prattville (sewer installed to fix around 2003)
 - ▶ Vreba-Hoff Dairy II (gone, and new CAFO complying with permit)
- ▶ Since issues were corrected, we re-monitored in 2015 hoping for improvement
 - ▶ Inlet was still just as bad, possibly worse
 - ▶ Pushed by citizen activists to do something
- ▶ Back again in 2016 for more detailed study

2016



2016

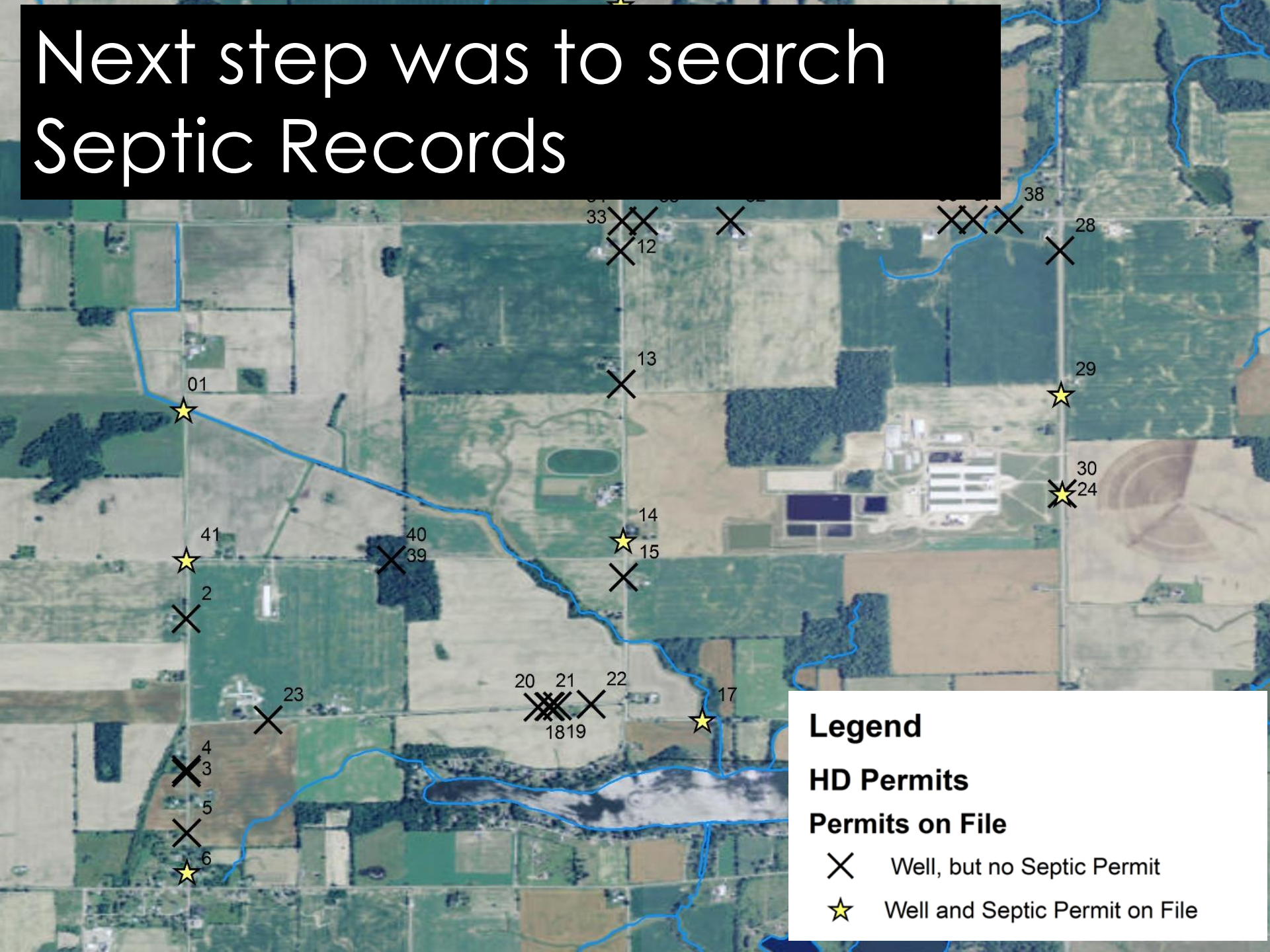


Description	LIME CREEK - LIME LAKE RD	
7/26/2016	1322	
8/2/2016	1396	
8/9/2016	1963	
8/16/2016	28042	
8/23/2016	1498	2732

Conclusions from 2016:

- ▶ *E. coli* got worse between Tamarack and Elm St, especially during **dry** weather
- ▶ Our 2016 DNA results were **inconclusive (non detects)**, other than one “hit” for pig specific Bacteroides
- ▶ Some limited DNA tracking data collected by a local resident did show “hits” for human, pig, and cow.

Next step was to search Septic Records



Legend

HD Permits

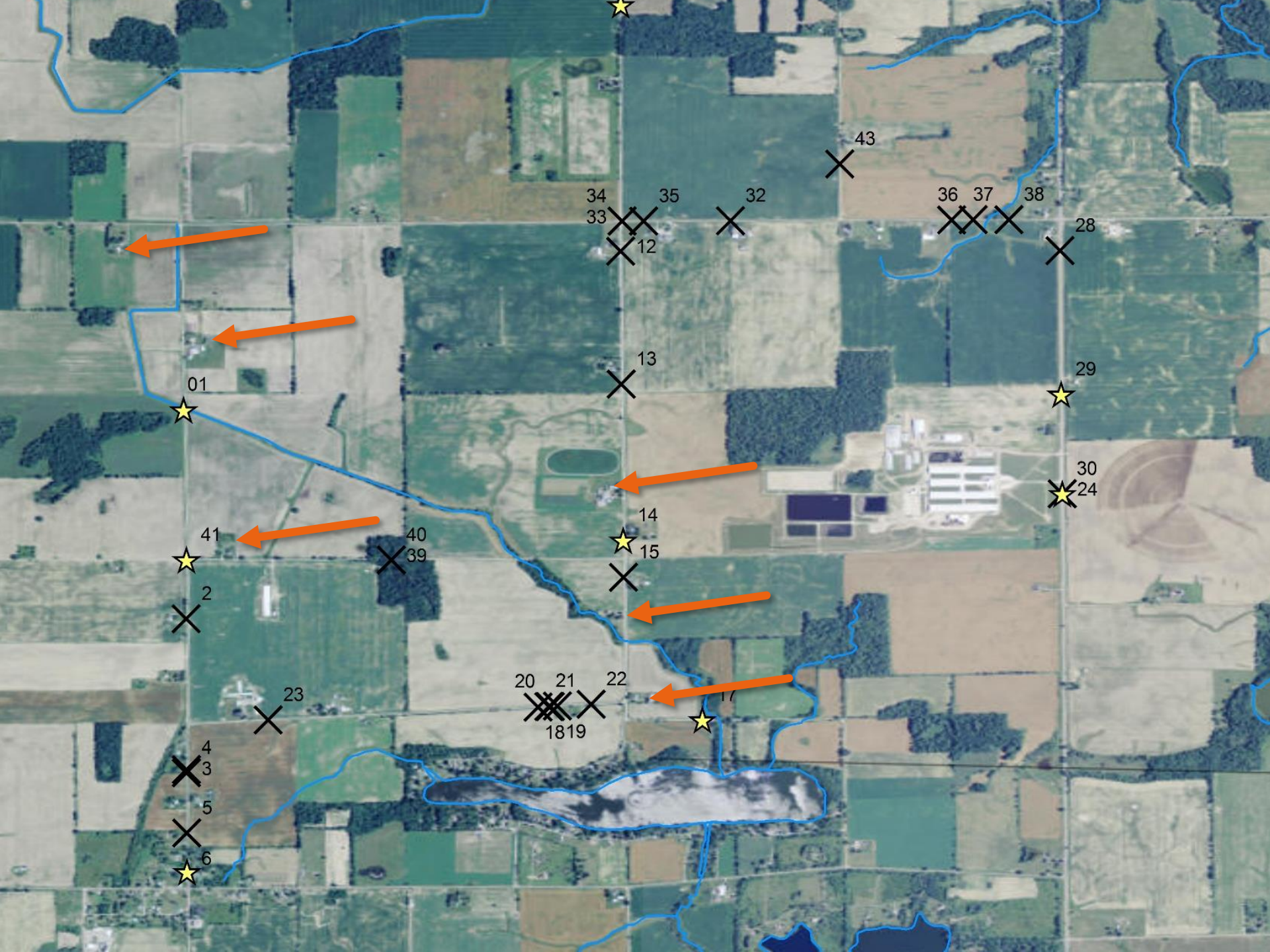
Permits on File



Well, but no Septic Permit



Well and Septic Permit on File



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James from the Health Dept.

Environmental Canine Services, LLC
Canine Source Tracking



HILLSDALE DAILY NEWS




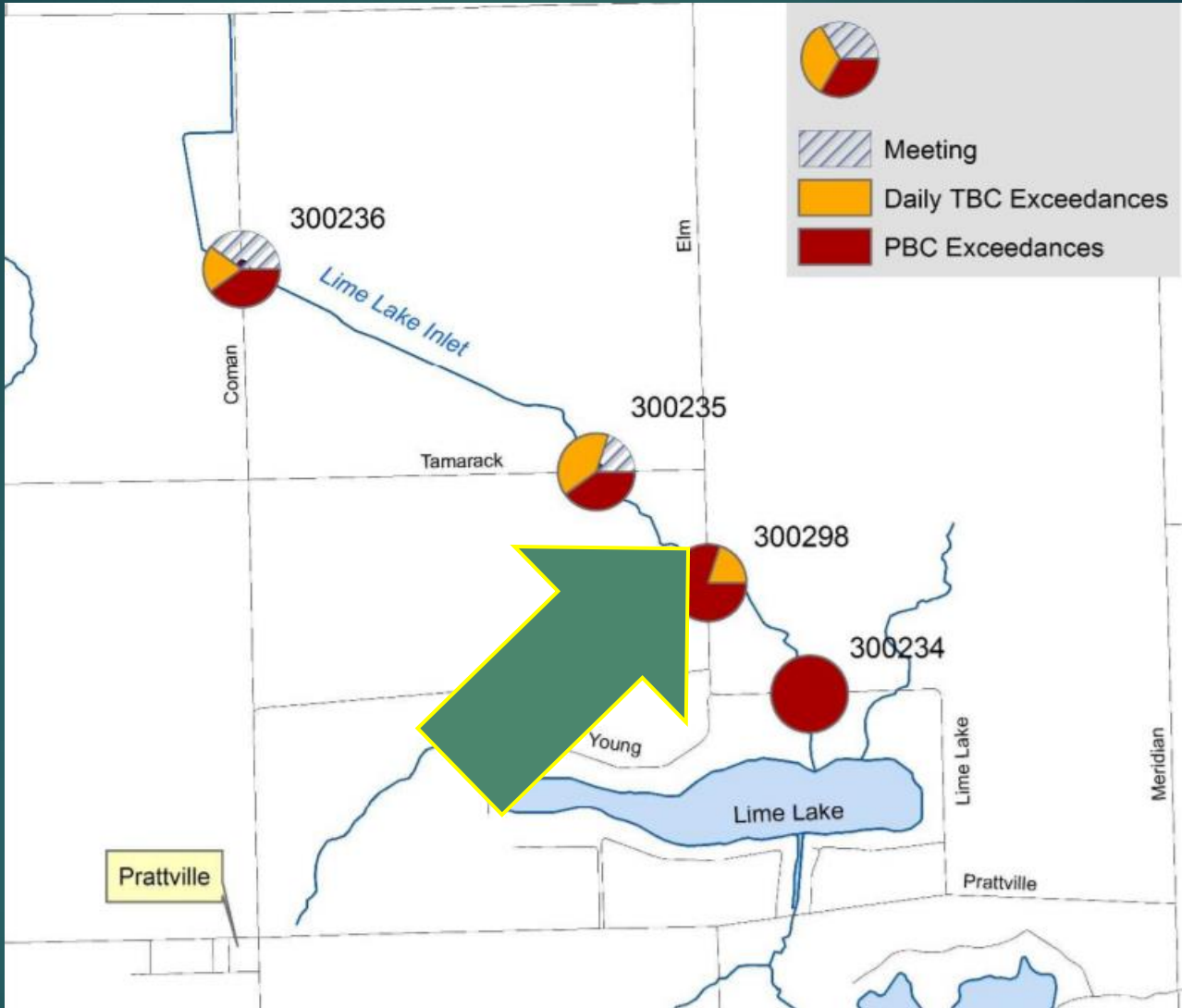
Canines sniff out contamination throughout watershed

Conclusions of Canine Study:

- ▶ Kenna detected sewage everywhere, so we got a second opinion from Abbey
- ▶ Abbey agreed: Sewage was detected pretty much everywhere
- ▶ The only thing left to do was start knocking on doors and inspecting systems (Health Department holds this authority)



- 
- ▶ We chose properties with **no well/septic permits** on file, which were close to the creek as first priority
 - ▶ The HD conducted those inspections throughout 2017 and found **1 major issue...**





I walked right
past this!

The next issue was funding

- Homeowner couldn't afford a new system
- Local Community Action Agency was able to help



A photograph of a stream with debris and a corrugated metal pipe, overlaid with the text "More work to do!". The stream is narrow and flows through a wooded area. The water is brownish and murky. There is a large log partially submerged in the water, and a corrugated metal pipe is visible on the right bank. The surrounding area is overgrown with grass and brush. The text "More work to do!" is written in a large, white, bold font with a black outline, centered over the stream.

More work to do!