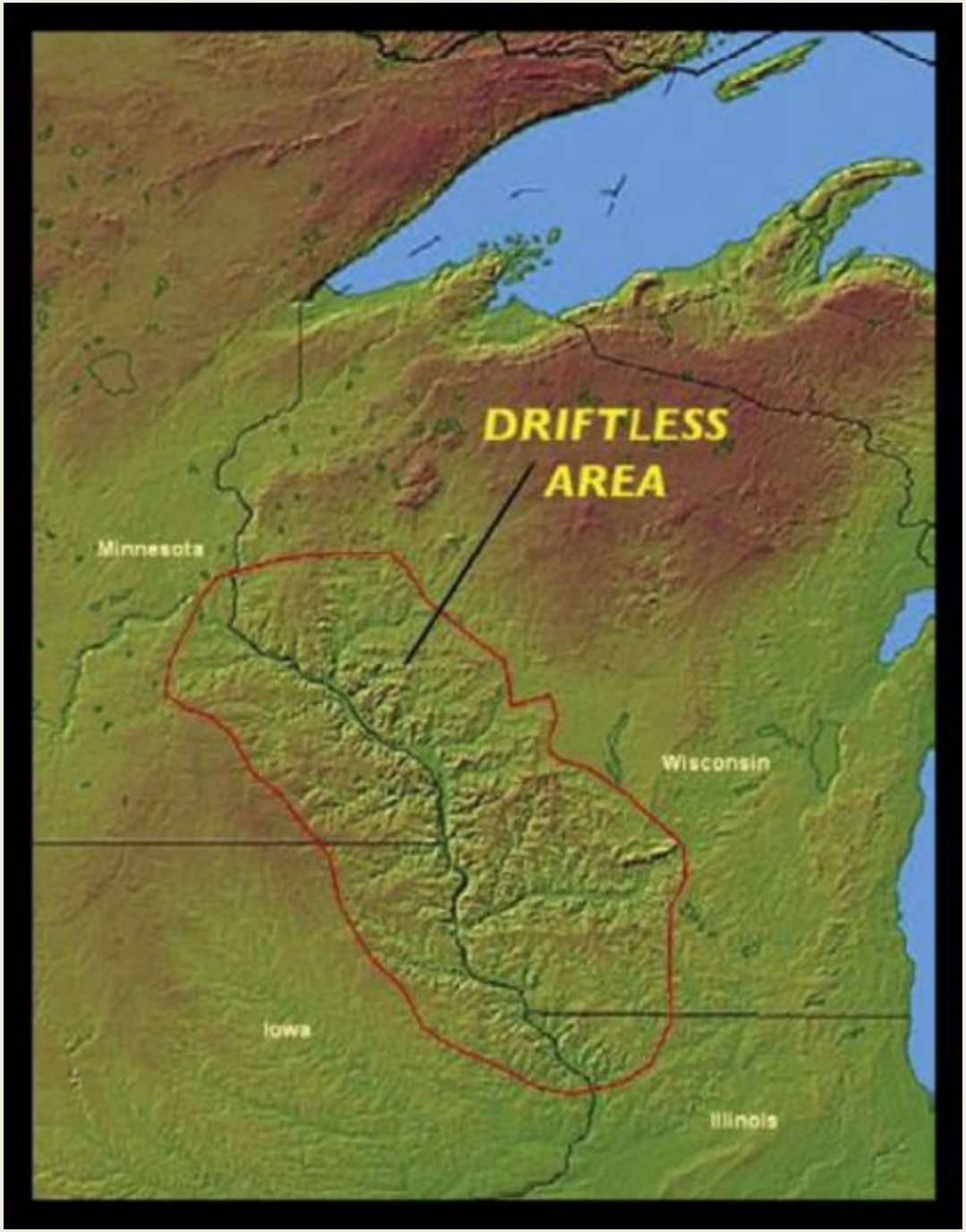
WATER QUALITY IN THE DRIFTLESS REGION
La Crosse County

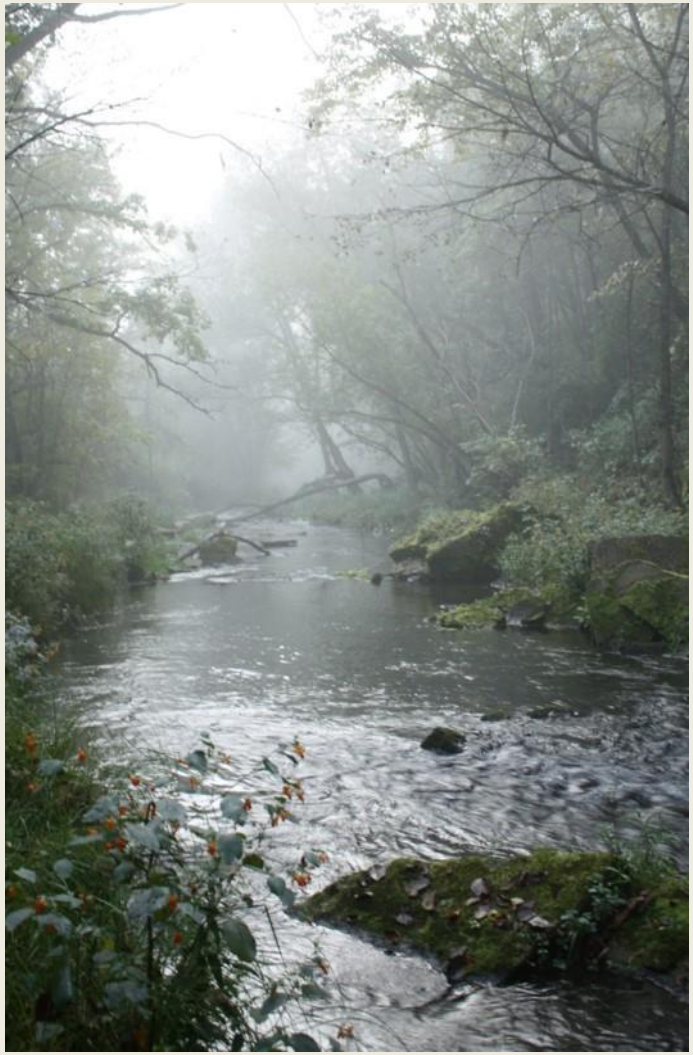
By

Gregg Stangl, Director

La Crosse County

Department of Land Conservation

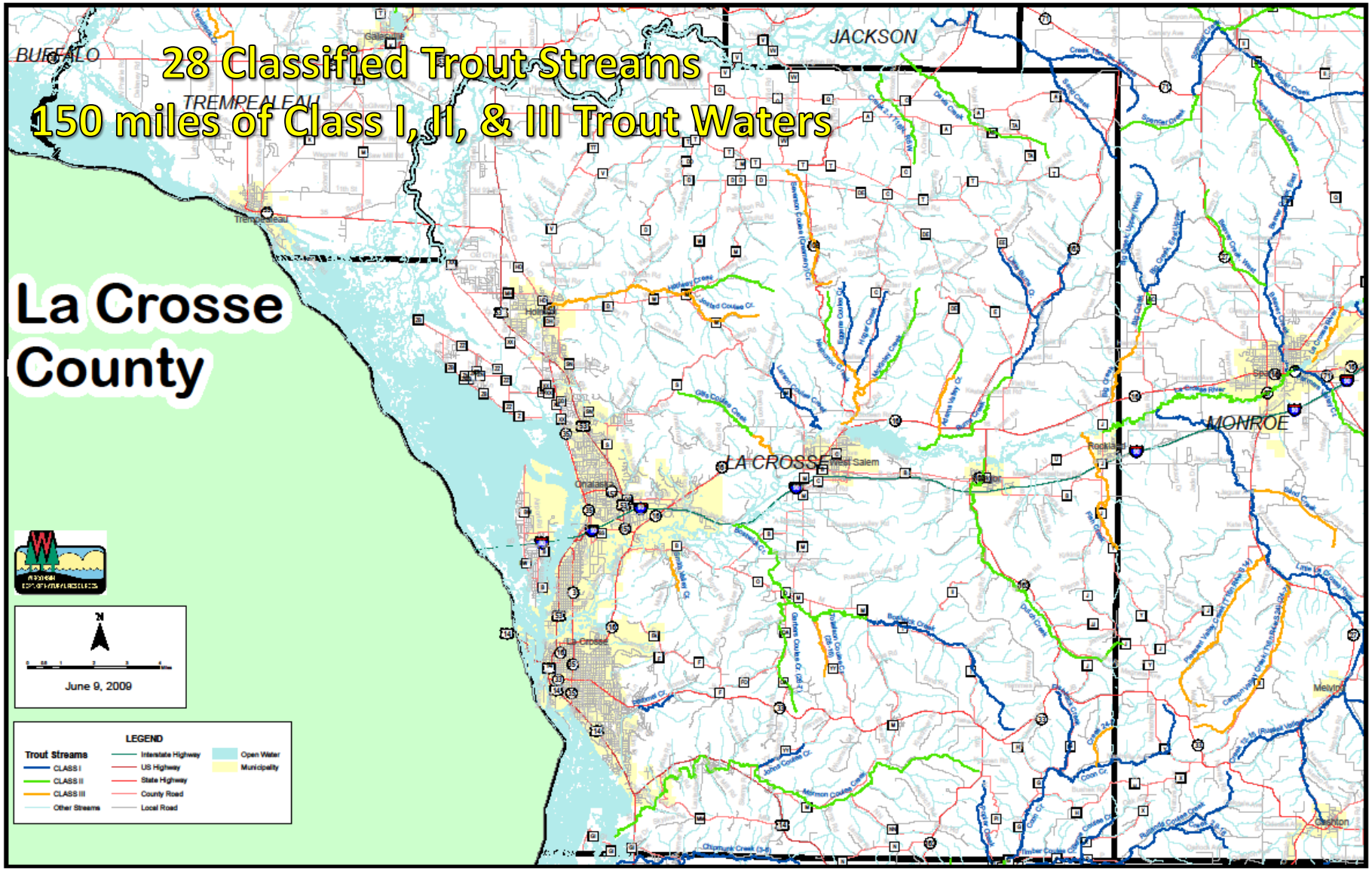

DRIFTLESS
AREA
Minnesota
Wisconsin
Iowa
Illinois

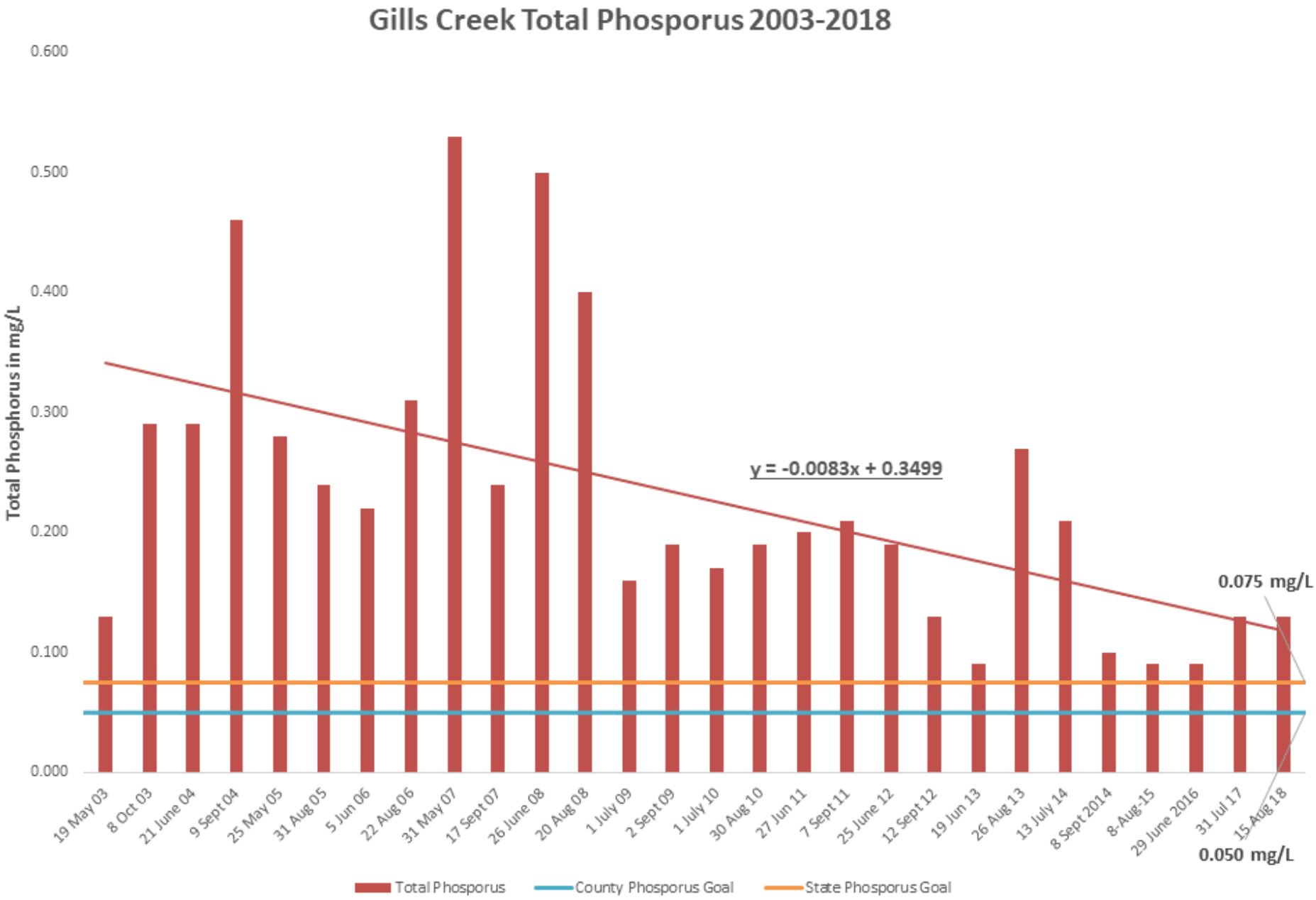


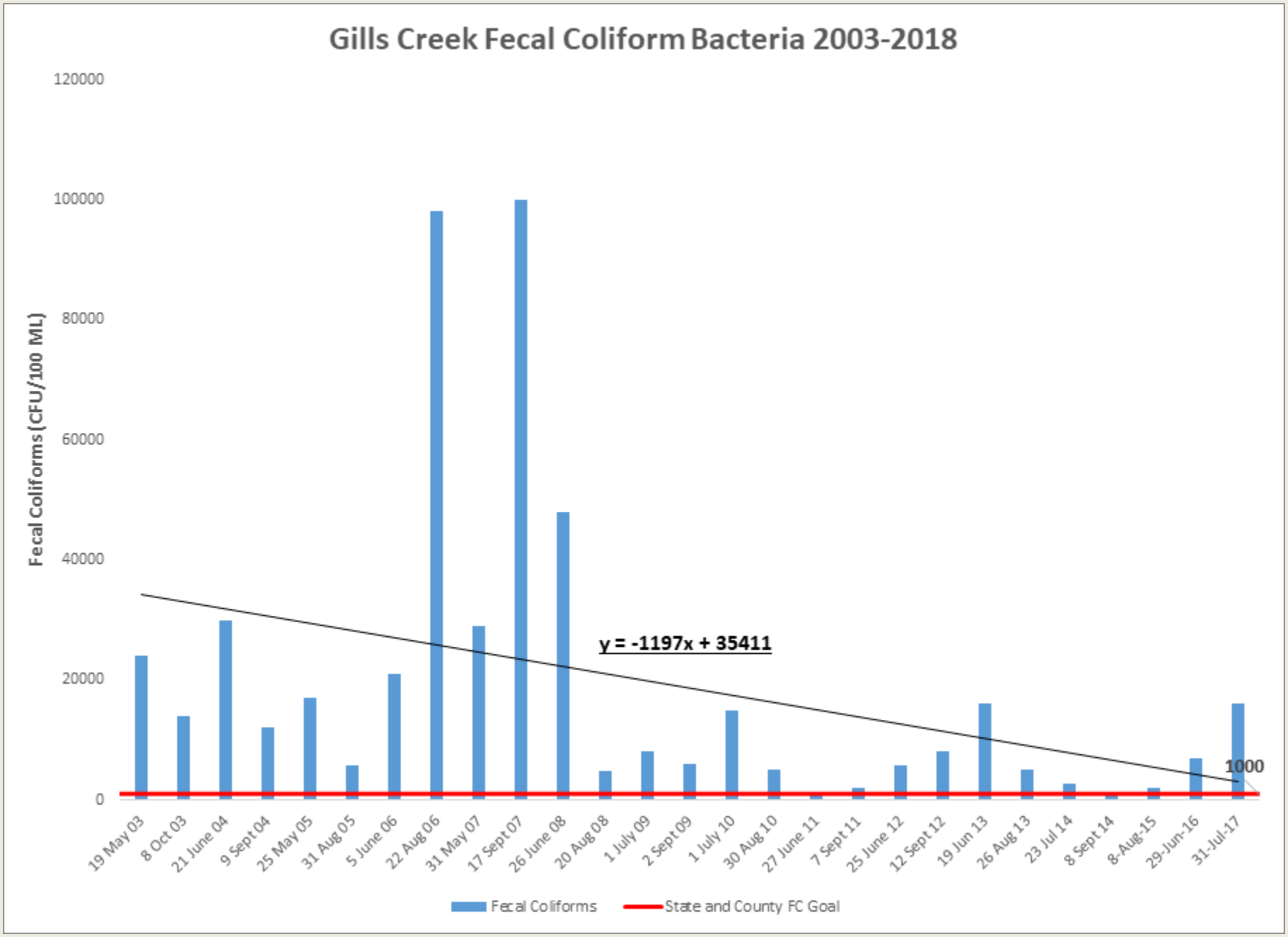

BOHEMIAN VALLEY
TROUT STREAM HABITAT
IMPROVEMENT PROJECT
DEPARTMENT OF
NATURAL RESOURCES
PRIVATE LANDS
LEASED FOR
PUBLIC FISHING
ONLY

Trout Angling in the Driftless Area $1.1 billion annually

source: The Economic Impact of Recreation Trout Angling in the Driftless Area
Trout Unlimited April 2008


28 Classified Trout Streams
150 miles of Class I, II, & III Trout Waters
La Crosse County
BUFFALO
TREMPEALEAU
JACKSON
LA CROSSE
MONROE
June 9, 2009
LEGEND
Trout Streams
CLASS I
CLASS II
CLASS III
Other Streams
Interstate Highway
US Highway
State Highway
County Road
Local Road
Open Water
Municipality


Gills Creek Total Phosporus 2003-2018
Total Phosphorus in mg/L
0.600
0.500
0.400
0.300
0.200
0.100
0.000
y = -0.0083x + 0.3499
0.075 mg/L
0.050 mg/L
19 May 03
8 Oct 03
21 June 04
9 Sept 04
25 May 05
31 Aug 05
5 Jun 06
22 Aug 06
31 May 07
17 Sept 07
26 June 08
20 Aug 08
1 July 09
2 Sept 09
1 July 10
30 Aug 10
27 Jun 11
7 Sept 11
25 June 12
12 Sept 12
19 Jun 13
26 Aug 13
13 July 14
8 Sept 2014
8-Aug-15
29 June 2016
31 Jul 17
15 Aug 18
Total Phosporus
County Phosporus Goal
State Phosporus Goal


Gills Creek Fecal Coliform Bacteria 2003-2018
Fecal Coliforms (CFU/100 ML)
120000
100000
80000
60000
40000
20000
0
y = -1197x + 35411
1000
19 May 03
8 Oct 03
21 June 04
9 Sept 04
25 May 05
31 Aug 05
5 June 06
22 Aug 06
31 May 07
17 Sept 07
26 June 08
20 Aug 08
1 July 09
2 Sept 09
1 July 10
30 Aug 10
27 June 11
7 Sept 11
25 June 12
12 Sept 12
19 Jun 13
26 Aug 13
23 Jul 14
8 Sept 14
8-Aug-15
29-Jun-16
31-Jul-17
Fecal Coliforms
State and County FC Goal

LA CROSSE COUNTY
Health Department
Nationally Accredited

La Crosse County Drinking Water & Ground Water

06.13.2019

Essential Public Health Service

- Link people to needed environmental public health services and assure the provision of environmental public health services when otherwise unavailable

PRACTICE

Water Testing Education

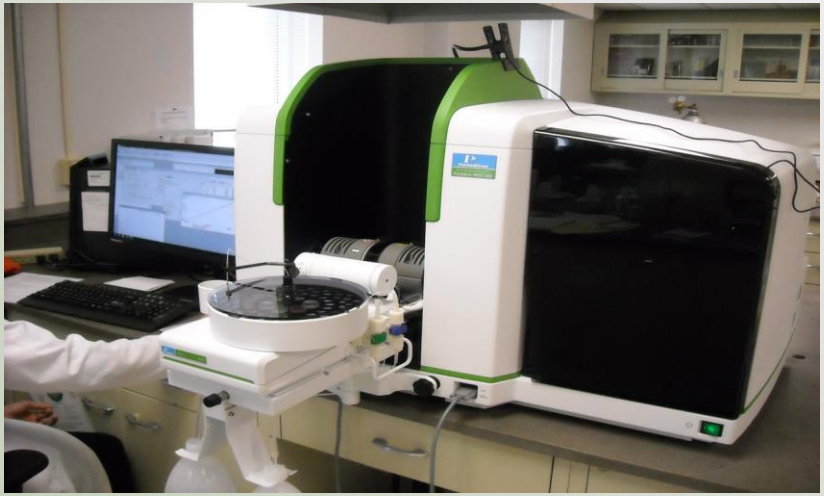
- Social Media
- Radio Ads
- Press Releases
- News Coverage
- Banners

- Dairy Breakfasts
- County Fairs
- Provider Brochure
- Letters with Septic Notices
- Water Test Kit Stocks

PRACTICE

Lab Capacity

- La Crosse County Lab



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PRACTICE

On-Site Water Collection Events

- Solid Waste and Recycling Days (2018)
  - Town of Greenfield
  - Town of Farmington
- Voting Day (2019)
  - Town of Onalaska
  - Town of Holland
- Future Plans

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Nitrates in well water
&
impact on health

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Nitrates in Drinking Water

- Naturally-occurring anion
- Found in many foods
- Can enter groundwater from fertilizers (agricultural and residential), manure & sludge, as well as septic systems.
- Nitrate contamination of groundwater is increasing in extent and severity in our County and the State.

Health Risks

High levels pose a serious short-term health risk to infants, pregnant women, and females who may become pregnant.

- High levels of nitrate can affect the health of everyone.

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Factors that increase vulnerability to contamination

- Permeable soils
- Thin soils and shallow bedrock
- Fractured bedrock
- Karst and solution features
- Shallow depth to the water table
- Rapid infiltration and recharge
- Improperly abandoned wells
- Faulty or poorly-designed wells
- And others

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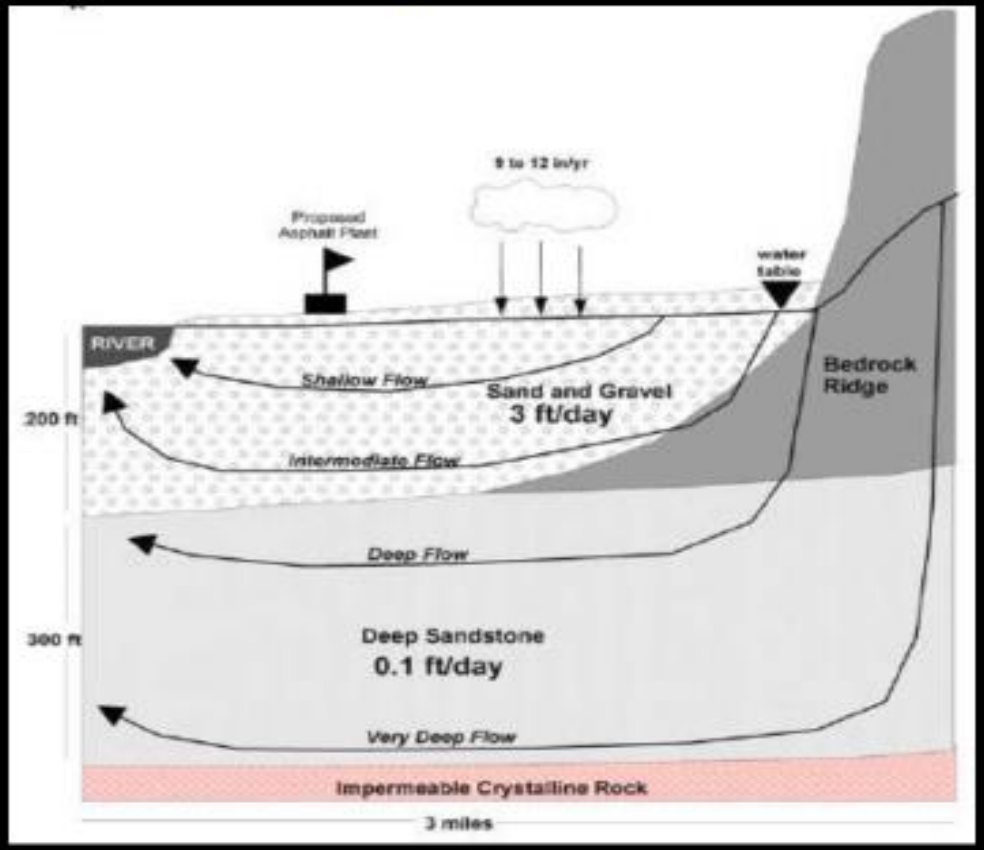
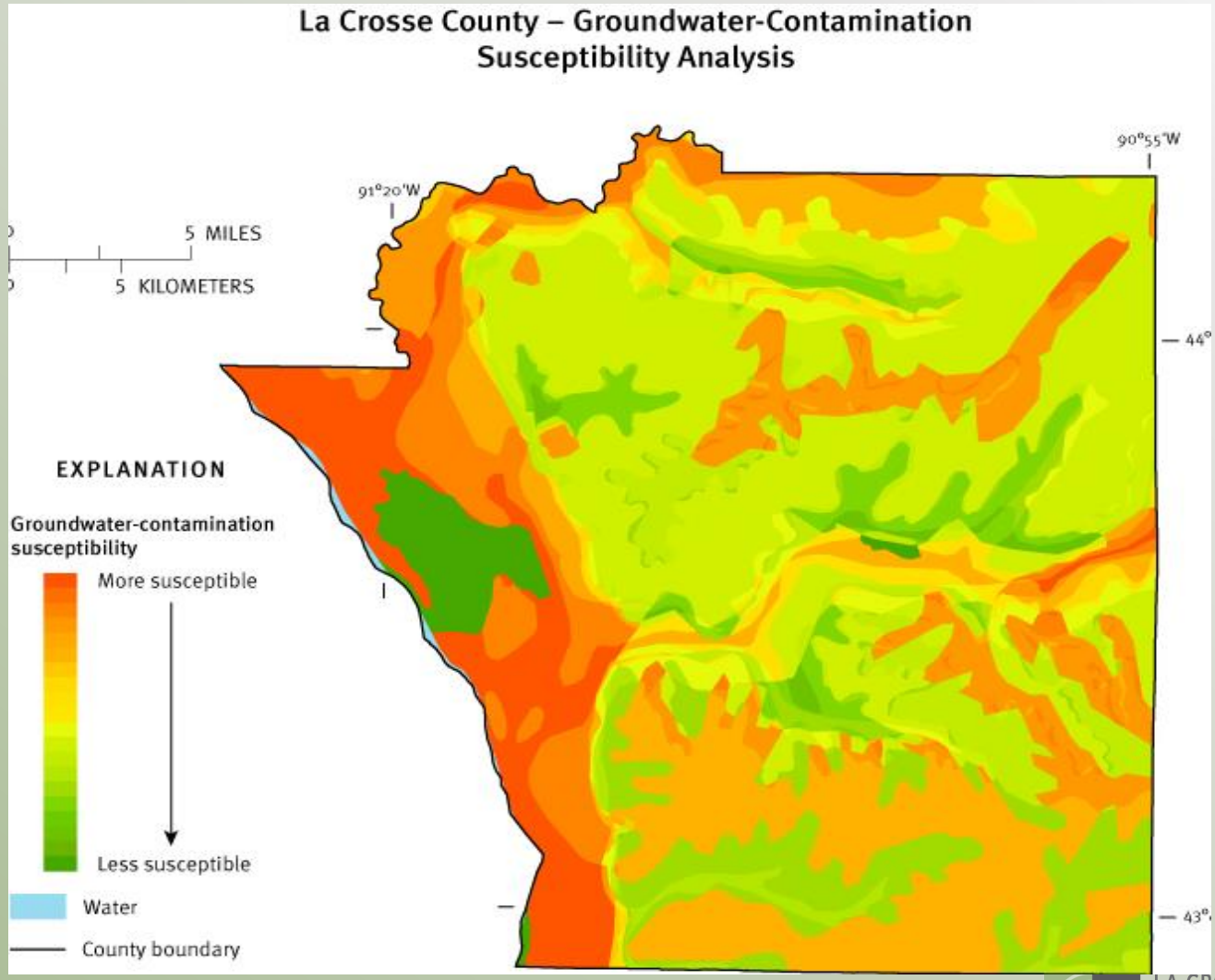
Unconfined Aquifer





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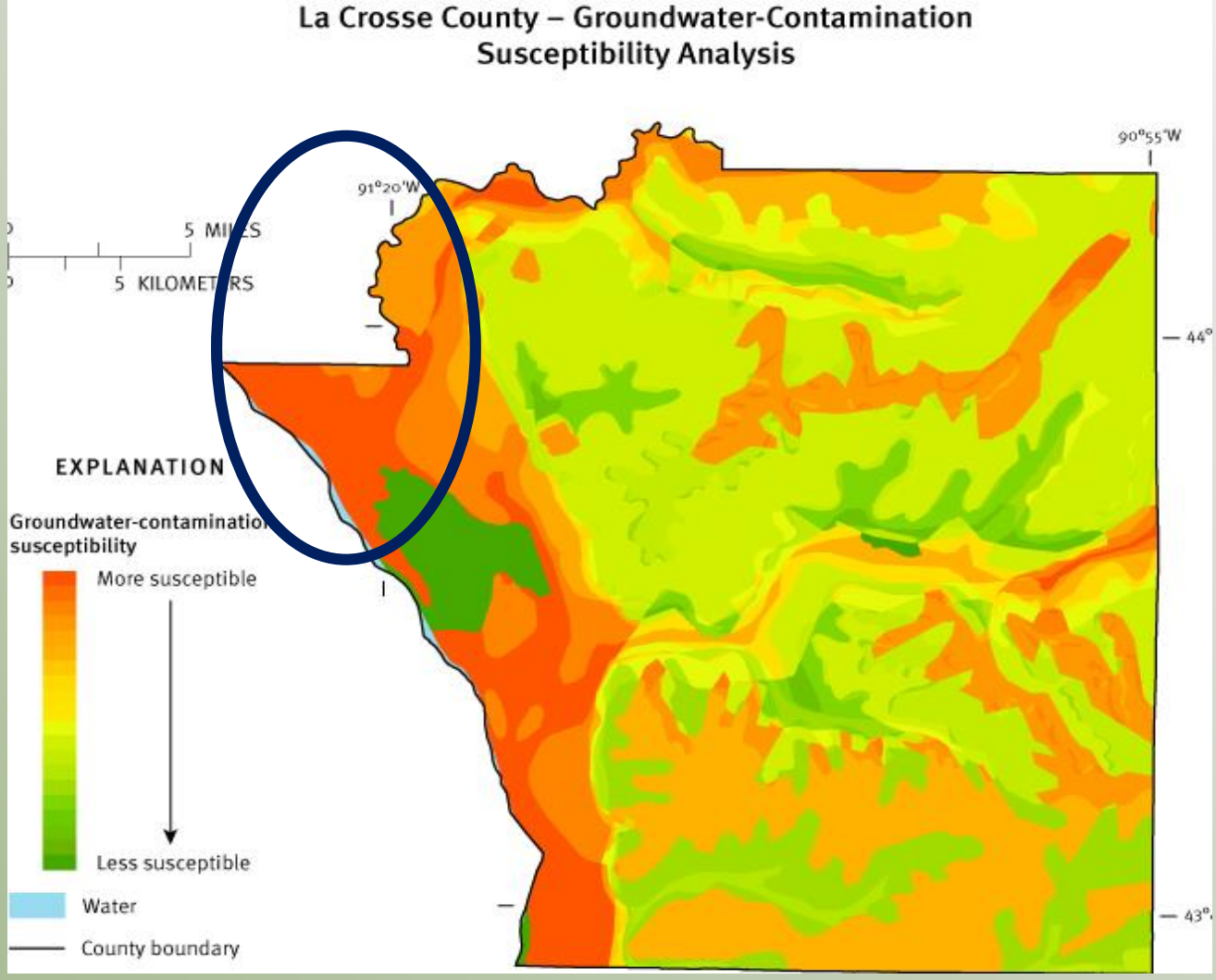

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Health Board
Public Record Request 2016

Monitoring well nitrate data from Babcock CAFO

2010 – 2016

90 of 102 tests were > 10 ppm

Highest = 49.4 ppm

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Private Well Contamination in Towns of Holland and Onalaska

The problem identified in private wells near the Babcock CAFO

Looking for solutions to share data between the DNR and La Crosse County Health Department to monitor compliance with WPDES

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Nitrate Levels 530 Wells
April & May 2017

Nitrate (mg/L)	# wells	%
<2.0	139	26
2.0 – 4.9	73	14
5.0 – 9.9	151	29
≥10	167	31

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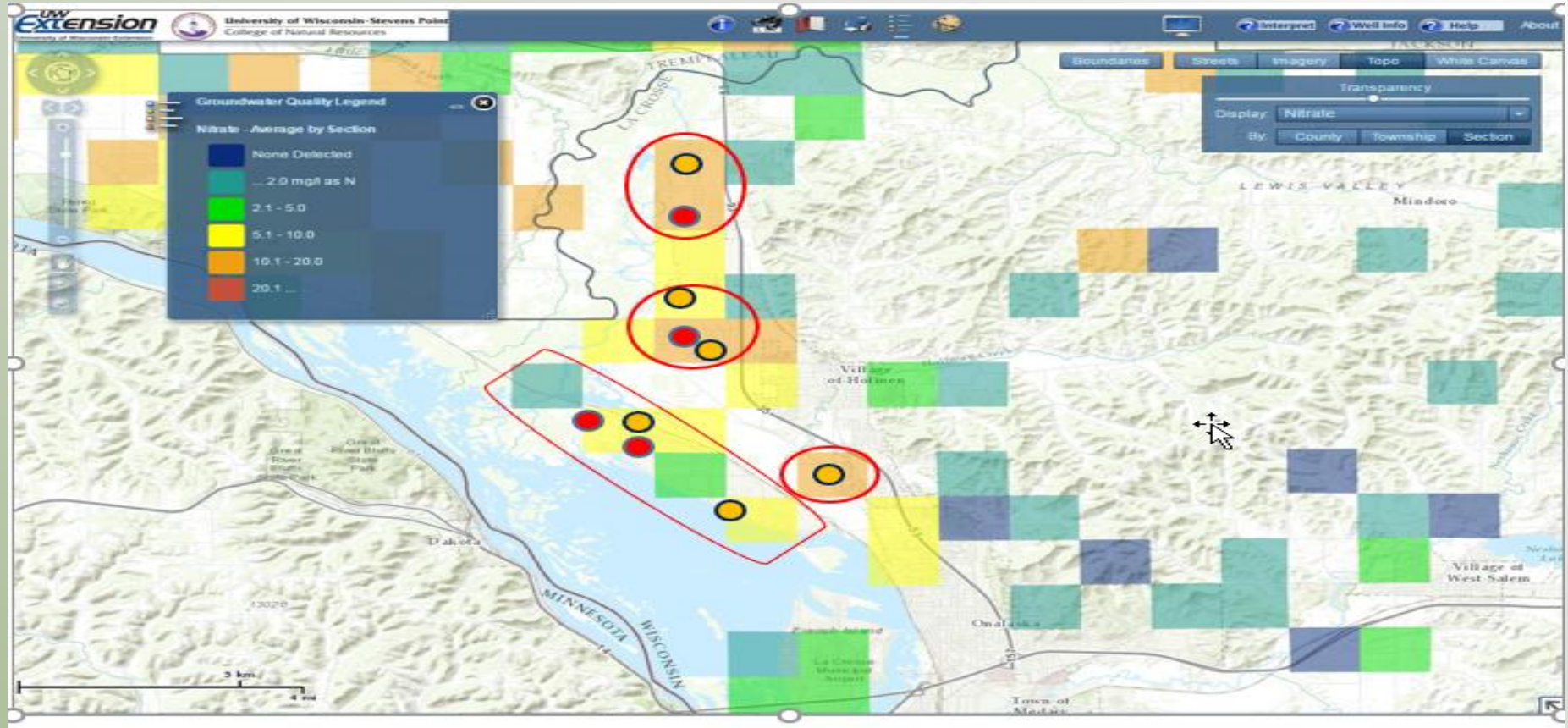

Map Source: Well Water Quality Viewer available at: https://gissrv2.uwsp.edu/cnr/gwc/pw_web/

Indicates areas of concern based on local private well water testing data (locations estimated)

Indicates nitrate levels greater than 20 mcg/mL (local data; locations estimated)

Indicates nitrate levels between 10.1 mcg/mL and 20.0 mcg/mL (local data; locations estimated)

What we know About Contaminated Area

Groundwater sensitive area – unconfined aquifer, sandy soil

CAFO monitoring shows impact to GW

Manure and sludge spreading

Increasing population with more POWTS (septic systems) and Wells

What we know About Contaminants

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- Agriculture is a necessity
- People need to eat and need access to safe water

What we know : Funding, Data, and Policy Gaps

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- Staffing & Maintenance for useful tools for mapping contaminated areas (UW Stevens Point Water Quality Viewer)

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- Gap in Data Sharing between agencies and organizations
- Gap in State Regulations to protect all Susceptible Soil Type Areas

Recommendations for Nitrates

- Close the gaps in funding and eligibility criteria of Well Compensation Program with current knowledge of groundwater-related health risks.
- Close the gaps in funding for local programs addressing contamination issues, conducting well water testing programs, and/or conducting well monitoring programs.
- Explore and promote innovative management strategies to reduce nitrate contamination of groundwater.

What we know: Other Contaminants

- Lead in Drinking Water
- Arsenic in Drinking Water
- PFAS: Perfluorinated Alkyl Substances

IN SUMMARY

- Water quality matters for the health of the people of La Crosse County and Wisconsin.
- State and local agencies need to work collaboratively to address both legacy and emerging water quality issues.
- La Crosse County will continue to educate and inform residents about contaminants and emerging issues related to Drinking Water.

THANK YOU

Carol Drury, RS, MS
Environmental Health & Lab Manager
P: 608-789-7816
cdrury@lacrossecounty.org

LA CROSSE COUNTY
Health Department
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300 4th St N, 2nd Floor, La Crosse, WI 54601
Website | Facebook