

# Northeast Ohio Phosphorus Task Force Winter 2020 Executive Summary

## Task Force Background

The Northeast Ohio Phosphorus Task Force was initiated by Dr. John Patterson, Ohio House of Representative for District 99, in collaboration with the OSU Extension Offices in Northeast Ohio and the Northeast Ohio Counties of the Ohio Farm Bureau Federation. The committee was formed to take a proactive approach to the Senate Bill 1 legislation passed in 2015 which created new rules for manure and fertilizer application specifically for Northwest Ohio due to toxic algae blooms in Lake Erie. A concern of this committee was the parameters of this legislation could eventually be expanded state-wide in the future which could hamper animal agriculture in Ashtabula, Geauga, and Lake counties. Committee membership included farmers, Extension personnel, Farm Bureau and Farmers Union members, and agricultural cooperative members.

## Research & Education

At each of the task force meetings, the committee brought in speakers and published reports to educate themselves about the water quality issues in Lake Erie as well as the specific regulatory details of the Senate Bill 1 legislation. Even though the legislation was written specifically for northwest Ohio, the committee felt it imperative to conduct proactive research on the potential impact the new rules would have if it would be implemented state-wide in the future. As a long term goal, the task force will examine ways in which the farm community can adapt to help improve water quality in both the Lake Erie and Ohio River watersheds.

Since January 2016, the committee has tracked the weather conditions during the winter months. Farmers were asked to monitor the weather & soil conditions which were present each day from December through the end of March. Cooperators were asked to track two questions each day #1: Is your ground snow covered or frozen? #2: Is the top two inches of the soil saturated? According to the legislation from Senate Bill 1, no manure or fertilizer can be applied (without incorporation) if these conditions exist in Northwest Ohio. This research was completed to ascertain the percentage of days in our watersheds when it would be permissible for manure or fertilizer application if the legislation was expanded statewide. 6 producers in Ashtabula, Geauga, and Trumbull Counties participated in this research project in 2020.

Northeast Ohio Phosphorus Task Force January 2018 Tracking Sheet

January 2018						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	2 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	3 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	4 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	5 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	6 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	7 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated
8 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	9 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	10 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	11 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	12 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	13 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	14 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated
15 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	16 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	17 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	18 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	19 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	20 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	21 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated
22 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	23 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	24 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	25 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	26 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	27 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	28 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated
29 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	30 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated	31 Snow or Frozen Ground? Circle which condition Snow or Frozen Ground Top 2" of Soil Saturated				

Northeast Ohio Phosphorus Task Force - 2017-2018 Study  
 Project Completed. Shared to: County Extension @ OSU Extension, Ashtabula County, 29 Wall Street, Jefferson, OH 44007  
 440-510-9008 (phone), 440-510-5621 (fax) or [extension@ohio.edu](mailto:extension@ohio.edu)  
 Cooperator's Name: \_\_\_\_\_ Township: \_\_\_\_\_ GPS Coordinates: \_\_\_\_\_

## Data Collection

The data from each cooperating farmer was returned to the Ashtabula County Extension office to be summarized. Each day (at the same time each day), the cooperator indicated whether the ground was **snow covered** or **frozen** or if the top two inches of the ground was **saturated**. These conditions are defined as:

**Snow covered soil** – is when soil, or residue lying on the soil, cannot be seen because of snow cover, or soil covered by one-half inch of ice or more.

**Frozen soil** – is ground that is impenetrable because of frozen soil moisture. The restriction is intended to prevent situations where fertilizer or manure is unable to freely infiltrate the soil and therefore would likely run off to surface water. Generally frozen soil will: #1: not be easily penetrated by a metal object (such as a knife, screwdriver, or shovel), #2: not deform to show a visible imprint under downward pressure, and #3: have a temperature below 32°F.

**Soil Saturation**- occurs when all the pore spaces in the soil are filled with water. A soil that has an available water capacity above field capacity will be considered saturated. According to the Natural Resource Conservation Service Standard 590 for Ohio, when the available water capacity of a soil is above field capacity, then free water will appear

on the surface of the soil when the soils is bounced, kneaded, or squeezed. For a fertilizer or manure application to be considered a violation of law, the top two inches of the soil would need to be saturated and the application would have been made with incorporation, injection or growing crop.

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## Research Findings

Month	Number of Sites Reporting	Days Available to Spread from All Reporters	Applicators Who Could <u>Not</u> Spread Manure Any Day During Month	Percentage of Days in Northeast Ohio Which Manure Could Have Been Applied <sup>1</sup>	Range of Days for Number of Days Each Farmer Could Have Applied Manure
December '19	6	2	83%	1.08%	0 -2 days
January '20	6	2	83%	1.08%	0-2 days
February '20	6	5	83%	2.98%	0-5 days
March '20	5	31	0%	20.67%	6-10 days
<b>Summary 19-20</b>		<b>40</b>		<b>5.76%</b>	<b>2 – 10 days</b>

<sup>1</sup>Total Days Available in Aggregate for Month / (Days in month \* number of reporters)

For **December 2019**, 6 cooperators completed and returned tracking data. In aggregate, only **1.08%** of the days, available for the reporting group, allowed for the field application of manure. Five of the six reporters (83.3%) reported there were **0 days in December** in which they could have spread manure based on the restrictions provided by the Senate Bill 1 legislation. One producer reported having acceptable conditions for 2 out of the 31 days.

For **January 2020**, 6 cooperators completed and returned tracking data. The results were almost identical to December, in which the aggregate data showed that only **1.08%** of the days, available for the reporting group, allowed for the field application of manure. Five of the six reporters (83.3%) reported there were **0 days in January** in which they could have spread manure based on the restrictions provided by the Senate Bill 1 legislation. One producer reported having acceptable conditions for 2 out of the 31 days.

For **February 2020**, 6 cooperators completed and returned tracking data. In aggregate, only 2.98% of the days, available for the reporting group, allowed for the field application of manure. Five of the six reporters (83.3%) reported there were **0 days in December** in which they could have spread manure based on the restrictions provided by the Senate Bill 1 legislation. One producer reported having acceptable conditions for 5 out of the 28 days.

For **March 2020**, 5 cooperators completed and returned tracking data. In aggregate, only 4.0% of the days, available for the reporting group, allowed for the field application of manure. Two of the five reporters reported there were no days in April in which they could have spread manure based on the restrictions provided by the Senate Bill 1 legislation.

**In aggregate, the nine different producers only had a combined 40 days out of 695 reported days (5.76%) to spread manure following the restrictions of Senate Bill 1.** The total days available ranged from 2 to 10 days for the reporting farmers.

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## Implications

Given the data, a concern continues to arise for livestock producers who do not have on-farm storage for manure and have to rely on every-day application of their manure. During the winter of 2019-2020, the average farmer only **had 4 days available out of 121 to spread manure given the restrictions of Senate Bill 1 legislation.** It is recommended this research be conducted again in 2020 -2021 season. Additional research is needed to determine how many producers would need to build manure storage structures if the Senate Bill 1 legislation were to be expanded statewide.

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## For Additional Information

More information about the Northeast Ohio Phosphorus Task Force can be obtained by contacting Andrew Holden (Task Force Secretary) at 440-576-9008 or [Holden.155@osu.edu](mailto:Holden.155@osu.edu) Summary compiled by Andrew Holden.

# Northeast Ohio Phosphorus Task Force 2016 – 2020 Data Summary

Month	Number of Sites Reporting	Days Available to Spread from All Reporters	Applicators Who Could Not Spread Manure Any Day During Month	Percentage of Days in Northeast Ohio Which Manure Could Have Been Applied <sup>1</sup>	Range of Days for Number of Days Each Farmer Could Have Applied Manure
January '16	17	7	88.2%	1.33%	0-4 days
February '16	15	5	93.3%	1.15%	0-5 days
March '16	12	120	8.3%	32.26%	0-21days
<b>Summary 16</b>		<b>132</b>		<b>10.3%</b>	<b>0-26 days</b>
December '16	11	8	72.7%	4.4%	0 - 7 days
January '17	14	0	100%	0%	0 days
February '17	14	20	42.9%	5.1%	0 - 5 days
March '17	12	14	33.3%	4.3%	0 – 7 days
<b>Summary 16-17</b>		<b>51</b>		<b>3.3%</b>	<b>0 – 8 days</b>
December '17	13	80	0%	19.9%	1 - 12 days
January '18	13	0	100%	0%	0 days
February '18	13	1	92.3%	0.3%	0 - 1 days
March '18	13	5	84.6%	1.2%	0-4 days
<b>Summary 17-18</b>		<b>86</b>		<b>5.5%</b>	<b>1-14 days</b>
January '19	8	0	100%	0%	0 days
February '19	8	20	100%	0%	0 days
March '19	6	41	0%	22.04%	1-19 days
April '19	5	6	40%	4.00%	1-3 days
<b>Summary 19</b>		<b>67</b>		<b>7.14%</b>	<b>1 – 19 days</b>
December '19	6	2	83%	1.08%	0 -2 days
January '20	6	2	83%	1.08%	0-2 days
February '20	6	5	83%	2.98%	0-5 days
March '20	5	31	0%	20.67%	6-10 days
<b>Summary 19-20</b>		<b>40</b>		<b>5.76%</b>	<b>2 – 10 days</b>



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