

<p>Notice of Public Meeting  <b>Thursday, January 9, 2020</b>  8:30 a.m.</p>	<p><b>LAND CONSERVATION  COMMITTEE</b></p>	<p>Door County Government Center  Chambers Room, 1st floor  421 Nebraska Street, Sturgeon Bay, WI</p>
<p><i>Oversight for Soil &amp; Water Conservation Department</i></p>		

## AGENDA

1. **Call Meeting to Order**
2. **Establish a Quorum**
3. **Adopt Agenda / Properly Noticed**
4. **Correspondence**
  - 4.1. Email Correspondence – Don Freix **Page 2**
5. **Public Comment** (Maximum agenda item of 30 minutes with a maximum of five minutes per speaker)
6. **Supervisor Response**
7. **Approve Minutes:** 11/14/19 LCC Minutes **Page 3**
8. **Personnel**
  - 8.1. Introduce Conservationist Samantha Koyen and Conservationist Timothy Dahl
9. **Anonymous Reporting of Complaints**
10. **Chapter 23 Agricultural Performance Standards & Animal Waste Ordinance**
  - 10.1. Report on Recent Violations/Enforcement Activities
11. **Calendar Restrictions on Manure Applications**
  - 11.1. Review Current Regulations **Page 6**
  - 11.2. Comparison of Current Regulations and Other County Ordinances **Page 7**
12. **Door County Public Health & SWCD Drinking Water Contamination Policy** **Page 48**
13. **Door County 2020 Flooding Informational Seminar** **Page 53**
14. **Targeted Runoff Management Grant Program**
  - 14.1. Fabry Creek Headwaters Project Grant Period Extension Approval **Page 57**
15. **Soil & Water Resource Management Grant Program**
  - 15.1. Landowner/Operator Cost-share Agreement Preliminary Approval(s) **Page 58**
16. **2020 Land and Water Resource Management Plan**
  - 16.1. Overview of Timeline and Public Participation Process **Page 59**
  - 16.2. County Board Resolution to Appoint Local Advisory Committee **Page 64**
17. **Area & State Conservation Associations**
  - 17.1. WI Land + Water Conservation Association Annual Conference – March 4-6, 2020 **Page 66**
    - 17.1.1. LCC Attendance Authorization & Registration
    - 17.1.2. Silent Auction Donation
18. **Vouchers, Claims and Bills** **Page 74**
19. **Future Agenda Items**
20. **Next Meeting Dates:** March 12, 2020 8:30 a.m. – Regular LCC Meeting
21. **Meeting Per Diem Code**
22. **Adjourn**

*Deviation from the order shown may occur*



**Hanson, Beth**

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**From:** HANSON, ERIN  
**Sent:** Thursday, January 2, 2020 11:45 AM  
**To:** Hanson, Beth  
**Subject:** FW: Land Conservation Committee Agenda Request

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**From:** FreixCompany 2012 <draftdepot04@yahoo.com>  
**Sent:** Monday, December 30, 2019 4:51 PM  
**To:** Fisher, Kenneth <District10@co.door.wi.us>  
**Cc:** HANSON, ERIN <ehanson@co.door.wi.us>; PABICH, KEN <kpabich@co.door.wi.us>; Chomeau, Vinni <District18@co.door.wi.us>; Lundahl, Megan <District11@co.door.wi.us>; THOMAS, GRANT <gthomas1@co.door.wi.us>  
**Subject:** Land Conservation Committee Agenda Request

A happy, healthy and renewed public interest focused new year to you all.

Thanks for everyone's time with either taking a recorded message at your office or being there to answer my phone calls today, and/or to you just getting this update.

Mr Fischer assured me over the phone today that an agenda item will be appearing on the January 9, 2020 Door County Land Conservation Committee as to what the county is allowed to do.

My request to all of you is that the County of Door needs to enact an immediate or emergency order with enforceable legal ordinances regarding restrictions on liquid manure spreading in any fashion, to match the time of year, date restrictions enacted as ordinances in Kewaunee Co which address the month of March and about 1/2 of the month of April or we will be subjecting ourselves to significantly more dangerous public health and safety risks if land spreading of liquid cow manure occurs prior to that which is allowed in Kewaunee Co, and we can guess that it will likely occur if county action is delayed.

Personally, I am tired of the excuse that there is nothing we as a county can do, to protect our constituency from the serious and known human health hazards associated with the proven as environmentally unsustainable model of agricultural dairy production existing today in Northeast Wisconsin, that has given rise to state government rule protecting and promoting the "CAFO," model of environmental terrorism.

I'd appreciate your opinion and feedback in a reply.

Peace and Resolve,

Donald Freix  
Fish Creek, WI

920 868 9513

**MINUTES**

Thursday, November 14, 2019

**LAND CONSERVATION  
COMMITTEES***Door County Government Center  
Chambers Room, 1<sup>st</sup> floor  
421 Nebraska Street, Sturgeon Bay**Oversight for Soil & Water Conservation Department*

1. **Meeting was called to order at 8:30** a.m. by Chair Ken Fisher.
2. **Establish a Quorum - Roll Call**  
Members present: Dan Austad, Vinni Chomeau, Ken Fisher, Randy Halstead, John Neinas, Mike Vandenhouten, and Richard Virlee.  
Others present: Erin Hanson and Beth Hanson – SWCD; Present for a portion of a meeting: Greg Coulthurst and Brian Forest – SWCD; and members of the public.
3. **Adopt Agenda / Properly Noticed:** Motion by Dan Austad, seconded by Vinni Chomeau to adopt the agenda as posted. Motion carried.
4. **Approve Minutes:** Richard Virlee made a motion, seconded by Randy Halstead, to approve the September 6, 2019 and October 29, 2019 Land Conservation Committee meeting minutes as written. Motion carried.
5. **Public Comment:** Don Freix, 8305 Quarter Line Road, Fish Creek, suggested that more people be hired to be on call for the industrial farms, to require an inspector to provide prior approval to spreading at a location due to the weather situation, maybe in conjunction with Kewaunee County, at the expense of the operation. Also press our State legislators to prepare a bill to deal with water pollution.
6. **Supervisor Response:** None
7. **Area & State Conservation Associations**
  - 7.1. Erin Hanson reviewed the 9/27/19 Great Lakes Committee Tour in Ozaukee County. Hanson provided the highlights which included stops at a fishway project to benefit various species of fish allowing them to travel upstream pass the dam to other habitat, dam removal & restoration project, explained the fact sheets included in the packet and reviewed the challenges and benefits of these types of projects. Discussion followed.
  - 7.2. Erin Hanson reported the October 11, 2019 Lake Michigan Area Land & Water Conservation Fall meeting included topics on the State task force for water quality, stating the mission is to protect a healthy and stable amount of water for residents and industry; and a round table discussion on how County's handle hot topics.
  - 7.3. Erin Hanson provided an overview of the Lake Michigan Area Land & Water Conservation Association Board of Directors Planning & Budget Meeting on January 10, 2020 in Brown County. Hanson recommends that one LCC member attend. Randy Halstead made a motion approving one LCC member to attend the LMALWCA BOD Planning & Budget Meeting on January 10, 2020, seconded by Richard Virlee. Motion carried.
8. **Water Quality Meetings**
  - 8.1. Erin Hanson reported on the Water Policy Summit was hosted by Rep. Joel Kitchens and Congressman Mike Gallagher intended for policy makers. The meeting was a summary of issues facing the Great Lakes and NE Wisconsin as outlined on the agenda included in LCC packet. Ken Fisher reported on who attended and specific topics addressed.
  - 8.2. Erin Hanson provided an update of the Door County Private Well Monitoring Program; 145 bacteria and nitrate samples and 71 arsenic and cumulative samples were submitted and follow-up forums will be held on December 9<sup>th</sup> in Fish Creek and December 10<sup>th</sup> in Sturgeon Bay.

**9. Portage County Resolution Supporting Local Control for Livestock Siting – referred from County Legislative Committee**

Erin Hanson reported that the Portage County resolution included in the packet was referred to the LCC from the Legislative Committee. Hanson explained that Door County relies on Door County Code Chapter 23 to regulate.

**10. Forestville Millpond Update**

Erin Hanson reported that the drawdown has begun, DNR is monitoring upstream, downstream, and further downstream from of the millpond, using turbidity meters to compare continuous turbidity with suspended solids. The Facilities and Parks Department are leading the effort of the drawdown.

**11. Invasive Species Control Program**

**11.1.** Randy Halstead made a motion, seconded by Vinni Chomeau, providing preliminary approval of Soil & Water Conservation Department Invasive Species municipal cost-share agreement with the Town of Sevastopol in the amount of \$500.00. Motion carried.

**12. 2019 Nonmetallic Mine Reclamation Program**

**12.1.** Ken Fisher turned the meeting over to John Neinas to chair for this topic. Greg Coulthurst explained that the Nonmetallic Mine Reclamation annual fees are reviewed annually to ensure revenues cover the expenses in the current and future budget years. The SWCD has completed the analysis and projection and is proposing a one-year fee reduction for 2020 of 45%. John Neinas made a motion, seconded by Vinni Chomeau, to approve a one-year fee reduction of 45% for 2020. Motion carried.

**13. Phosphorus Multi-discharger Variance Participation Form**

Brian Forest explained the Multi-discharger Phosphorus Variance program that provides funds to reduce phosphorus within a specific watershed as described on the information sheet in the LCC packet. Vinni Chomeau made a motion, seconded by John Neinas, approving the application to participate in the Phosphorus Multi-Discharger Variance Program. Motion carried.

**14. Conservation Reserve Enhancement Program (CREP)**

**14.1.** Randy Halstead made a motion, seconded by Vinni Chomeau, approving the County CREP agreements with Jonathan Hemb for 2.7 acres and Mark & Cindy Kerscher for 14.86 acres. Motion carried.

**15. Soil & Water Resource Management Grant Program**

**15.1.** Randy Halstead made a motion, seconded by Vinni Chomeau, providing preliminary approval for Soil & Water Resource Management cost-share agreements with Douglas & Kathy Zillmer in the amount of \$2,674.00 and VanderKinter Farms (landowner-Three V's Real Estate) in the amount of \$1,470.00 for nutrient management and for Julie Pflieger in the amount of \$29,479.53 for best management practices. Motion carried.

**16. SWCD Water Pollution Abatement Cost-share Program**

**16.1.** Erin Hanson reported that preliminary approval was given for County cost-share application with Leon Broski in the amount of \$558 for well abandonment. Mike Vandenhouten made a motion, seconded by Richard Virlee, providing preliminary approval and carry-over into 2020 for the SWCD Water Pollution Abatement cost-share agreement with Sara Lardo in the amount of \$5,000 for best management practices. Motion carried.

**17. Personnel**

**17.1.** Erin Hanson reported that interviews have been conducted with 3 candidates for each vacancy and one more interview for each vacancy will be happening Thursday afternoon. Hopeful to have both vacancies filled in the next few weeks.

- 18. Correspondence:** Erin Hanson and Brian Forest reviewed correspondence included in packet.
- 18.1.** “Challenging fall harvest conditions highlight need for proactive communication”, Peninsula Pride Farms, October 2019
  - 18.2.** Free Resources Available to Assist Farmers through Wisconsin Farm Center – DATCP, [farmcenter.wi.gov](http://farmcenter.wi.gov)
  - 18.3.** “Water Resources and LiDAR in Wisconsin”, Jim Giglierano, WI Great Lakes Chronicle 2019
- 19. Vouchers, Claims and Bills:** A listing was provided.
- 20. Future Agenda Items:** Contact Erin Hanson
- 21. Next Meeting Date:** January 9, 2019, 8:30 a.m. – Regular LCC Meeting
- 17. Meeting Per Diem Code:** 798
- 18. Adjourn:** Motion to adjourn by John Neinas, seconded by Randy Halstead at 10:28 p.m. Motion carried.

Respectfully submitted by Beth Hanson, SWCD Administrative Assistant

	<b>NRCS 590 Nutrient Management Standard</b> (All farms with nutrient management plan)  <a href="https://efotg.sc.egov.usda.gov/references/public/WI/590_Standard-(2015-12).pdf">https://efotg.sc.egov.usda.gov/references/public/WI/590_Standard-(2015-12).pdf</a>	<b>Silurian Bedrock Standards, Chapter 23 Door County Code</b> (Cropland with 20 feet or less of soil over bedrock)  <a href="http://map.co.door.wi.us/swcd/">http://map.co.door.wi.us/swcd/</a>	<b>Wisconsin Administrative Code NR 243)</b> (DNR rules for permitted CAFOs, provided for reference only)  <a href="https://docs.legis.wisconsin.gov/code/admin_code/nr/200/243">https://docs.legis.wisconsin.gov/code/admin_code/nr/200/243</a>
<b>Saturated Soils</b>	IV.2.a.(1) Nutrients shall not be spread on the following: surface water; saturated soils; areas of active snow melt where water is flowing; concentrated flow channels; or non-harvested buffers...	1.31 (9) c. Manure may not be mechanically applied on areas of cropland or pastures that have 24 inches or less of separation between the ground surface and apparent water table.	NR 243.14(2)(b)5. Manure or process wastewater may not be applied to saturated soils. NR 243.14(2)(b)7. Manure or process wastewater may not be applied on areas of a field with a depth to groundwater or bedrock of less than 24 inches.
<b>Forecasted Precipitation</b>	V. h. <b>Consider</b> delaying surface applications of nutrients if precipitation capable of producing runoff is forecast within 24 hours of the time of planned application.	1.31 (9) h. Mechanical application of manure is prohibited within Silurian bedrock having soil depths less than 5 feet when rainfall greater than one inch is forecast within 24 hours of planned application.	NR 243.14(2)(b)13. Manure or process wastewater may not be surface applied when precipitation capable of producing runoff is forecast within 24 hours of the time of planned application.
<b>Winter Restrictions</b>	IV 2. d. Winter Spreading plan required when frozen or snow-covered soils prevent effective incorporation at the time of application.	1.31 (9) (g) Mechanical application of manure and headland stacking of manure is prohibited on soils with 5 feet or less to Silurian bedrock when soils are frozen or snow covered.	Solid manure restrictions in NR 243.14(6) and Liquid manure restrictions in NR 243.14(7)
<b>Calendar Restrictions</b>	IV 2. d. (6) Do not surface apply liquid manure and/or organic by-products during February and March in well compensation areas or Silurian dolomite soils (60" or less soil over Silurian dolomite bedrock)	None	Solid manure may not be surface applied from February 1 through March 31 if snow present to a depth of one inch or greater or the ground is frozen. Liquid manure may not be surface applied from February 1 through March 31, unless there is a DNR approved emergency.

## CHAPTER 23 AGRICULTURAL PERFORMANCE STANDARDS AND ANIMAL WASTE STORAGE ORDINANCE

*Ordinance supersedes Chapter 23 Door County Code – “Animal Waste Storage Facility Ordinance” (Ordinance No. 4-87, enacted 02/19/87)*

### Subchapter I – Introduction

- 1.01 Authority.
- 1.02 Title.
- 1.03 Findings and Declaration of Policy.
- 1.04 Purpose.
- 1.05 Applicability.
- 1.06 Interpretation.
- 1.07 Severability Clause.
- 1.08 Relationship to Other Laws.
- 1.09 Authority Cited.
- 1.10 Effective Date.
- 1.11 Definitions.

### Subchapter II – Administration.

- 1.20 Delegation of Authority.
- 1.21 Administrative Duties.
- 1.22 Inspection Authority.
- 1.23 Enforcement Authority.

### Subchapter III – Agricultural Performance Standards and Prohibitions

- 1.30 Activities Subject to Agricultural State Performance Standards and Prohibitions.

- 1.31 Performance Standards and Prohibitions.
- 1.32 Cost-sharing required.
- 1.33 Implementation and Enforcement Procedures for Cropland Performance Standards.
- 1.34 Implementation and Enforcement Procedures for Livestock Performance Standards and Prohibitions.
- 1.35 Variances.

### Subchapter IV – Manure Storage Construction Permit

- 1.40 Permit Required.
- 1.41 Exception to Permit Requirement.
- 1.42 Fee.
- 1.43 Construction Requirements.
- 1.44 Review of Application.
- 1.45 Permit Conditions.
- 1.46 Permit Revocation.

### Subchapter V – Violations and Appeals

- 1.50 Violations.
- 1.51 Appeals.

### Subchapter I – Introduction

**1.01 Authority.** This section is adopted under authority granted by Sections 59.01, 59.02, 59.03, 59.04, 59.54, 59.69, 59.70, 66.0113, 92.07, 92.09, 92.11, 92.15, and 92.16 Wisconsin Statutes.

**1.02 Title.** This Ordinance shall be known as, referred to, and may be cited as the “Door County Agricultural Performance Standards and Animal Waste Storage Ordinance” and is hereinafter referred to as the Ordinance.

**1.03 Findings and Declaration of Policy.** (1) The Door County Board of Supervisors recognizes the importance of protecting our ground and surface water resources and finds that proper management of agricultural practices contributes to the protection of: ground and surface waters; public health; plant, animal, and aquatic life; and the property tax base of Door County.

(2) The Door County Board of Supervisors recognizes the importance of agricultural activities to the social, economic, historic, and cultural significance and subsistence of Door County residents and

transients.

(3) The residents of Door County have the right to implement agricultural activities on the land surface, where as these activities are implemented in a responsible manner so as not to adversely affect ground and surface waters; public health; and plant, animal, and aquatic life of Door County.

(4) The citizens of Door County have the right to implement agricultural practices and shall not have nuisance actions brought against them, in accordance with Section 823.08 Wisconsin Statutes, unless the agricultural use or practice is a substantial threat to public health or safety.

(5) The dominant aim of this ordinance is to promote the public health, safety, convenience and general welfare.

**1.04 Purpose.** This Ordinance establishes the right to farm responsibly, implements Agricultural Performance Standards and Prohibitions and supersedes Ordinance No. 4-87 Animal Waste Storage Facility Ordinance to reflect new standards.

**1.05 Applicability.** This ordinance applies to the entire geographical area of Door County, except as

## AGRICULTURAL PERFORMANCE STANDARDS AND ANIMAL WASTE STORAGE ORDINANCE

otherwise provided by law.

**1.06 Interpretation.** In their interpretation and application, the provisions of this Ordinance shall be held to be minimum requirements and shall be liberally construed in favor of Door County, and shall not be deemed a limitation or repeal of any other power granted by the Wisconsin Statutes.

**1.07 Severability Clause.** If any section, provision, or portion of this Ordinance is ruled invalid by a court, the remainder of the Ordinance shall not for that reason be rendered ineffective.

### 1.08 Relationship to Other Laws.

(1) The enactment of this ordinance shall not preclude the County of Door from enacting any other ordinance or providing for the enforcement of any other law or ordinance relating to the same or any other matters.

(2) The procedures and remedies set forth herein may be used in the alternative or in consonance with or in lieu of any other remedy or procedure authorized by law.

(3) Neither commencement of an action, nor legal remedy granted, under this ordinance may be deemed former jeopardy for purposes of concurrent or subsequent criminal proceedings relating to the same or any other matter.

**1.09 Authority Cited.** References herein to the Wisconsin Statutes or Wisconsin Administrative Code are to those in effect as of the date this ordinance is enacted or the Statutes or Code as subsequently amended or revised.

**1.10 Effective Date.** This Ordinance shall become effective upon its enactment and publication by the Door County Board of Supervisors.

### 1.11 Definitions.

(1) “Adequate sod, or self-sustaining vegetative cover” means maintenance of sufficient vegetation types and densities such that the physical integrity of the streambank or lakeshore is preserved. Self-sustaining vegetative cover includes grasses, forbs, sedges and duff layers of fallen leaves and woody debris.

(2) “Agricultural facility” means a structure associated with an agricultural practice.

(3) “Agricultural land use” means the use of land for agricultural practices.

(4) “Agricultural practice” means any activity associated with an agricultural use.

(5) “Agricultural use” includes the meaning given

in s. 91.01(2), Wis. Stats.

(6) “Animal feeding operation” means a lot or facility, other than a pasture or grazing area, where animals have been, are or will be stabled or confined, and will be fed or maintained for a total of 45 days or more in any 12-month period. Two or more animal feeding operations under common ownership or common management are a single operation if at least one of the following is true:

(a) The operations are adjacent.

(b) The operations utilize common systems for the landspreading of manure or other wastes, including a manure management plan or landspreading acreage.

(c) Manure, barnyard runoff or other wastes are commingled in a common storage facility prior to landspreading.

(7) “Animal unit” (a) means a unit of measure used to determine the total number of single animal types or combination of animal types, as specified in § NR 243.05, Wis. Adm. Code, that are at an animal feeding operation.

(8) “Applicant” means any person who applies for a permit under this Ordinance.

(9) “Best management practices” or “BMPs” means structural or non-structural measures, practices, techniques or devices employed to avoid or minimize soil, sediment or pollutants carried in runoff to waters of the state.

(10) “Board of Adjustment” means the Door County Board of Adjustment, created and appointed under s. 59.694 Wis. Stats.

(11) “Closed Depression” means a topographical basin where water ponds to a seasonal high water mark, has no external drainage, and drainage may occur either through direct conduits to groundwater or low areas where water ponds and infiltrates into the groundwater. Closed depressions may be identified using topographic maps and visual interpretation, ArcGIS tools, or other methods. A seasonal high water mark may include, but is not limited to, areas that collect and retain water for extended time periods (days or weeks) that result in areas of reduced or no crop growth. (§ NR 151.015(2), Wis. Adm. Code)

(12) “Concentrated flow channel” means a natural channel or constructed channel that has been shaped or graded to required dimensions and established in perennial vegetation for the stable conveyance of runoff. Concentrated flow channel may also include non-vegetated channels caused by ephemeral erosion, intermittent streams, drainage ditches, and drainage ends identified on the NRCS soil survey and may be identified as contiguous up-gradient deflections of contour lines on the USGS 1:24,000 scale topographic map. (§ NR 151.015(2m), Wis. Adm. Code)

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**(13)** “Conservation practice” means a best management practice designed to reduce or prevent soil or sediment loss to the waters of the state. (§ NR 151.015(3), Wis. Adm. Code)

**(14)** “Crop producer” means an owner or operator of an operation engaged in crop related agricultural practices specified in s. 281.16 (1) (b), Stats. (§ NR 151.015(4), Wis. Adm. Code)

**(15)** “Cropland practice” means the method, activity or management measure used to produce or harvest crops. (§ NR 151.015(5), Wis. Adm. Code)

**(16)** “Direct conduits to groundwater” includes the meaning given in § NR 151.002(11m), Wis. Adm. Code.

**(17)** “Direct runoff” includes any of the following:

(a) Runoff from a feedlot that can be predicted to discharge a significant amount of pollutants to surface waters of the state or to a direct conduit to ground water.

(b) Runoff of stored manure, including manure leachate, that discharges a significant amount of pollutants to surface waters of the state or to a direct conduit to ground water.

(c) Construction of a manure storage facility in permeable soils or over fractured bedrock without a liner designed in accordance with s. NR 154.04 (3).

(d) Discharge of a significant amount of leachate from stored manure to waters of the state. (§ NR 151.015(7), Wis. Adm. Code)

**(18)** “Established crop” means a growing annual crop, perennial crop, or cover crop that provides vegetative cover of the soil. (§ NR 151.015(7m), Wis. Adm. Code)

**(19)** “Exceptional resource waters” means waters listed in § NR 102.11, Wis. Adm. Code.

**(20)** “Idle manure storage facility” means a manure storage facility where the operations cease or manure has not been added or removed for 24 months.

**(21)** “Incorporation” has the meaning given in § NR 243.03(28).

**(22)** “Infield bedrock verification” means determining bedrock depth using available data which may include well construction reports, location of drill cores or other subsurface investigations, location of quarries and natural bedrock outcrops, geophysical investigations, and uneven crop growth patterns that are linked to fracture traces in the field. (§ NR 151.015(8h), Wis. Adm. Code)

**(23)** “Injection” has the meaning given in s. NR 243.03(29).

**(24)** “Karst feature” means an area or surficial geologic feature subject to bedrock dissolution so that it is likely to provide a conduit to groundwater, and may include caves, enlarged fractures, mine features,

exposed bedrock surfaces, sinkholes, springs, seeps or swallets. (§ Trans 401.06(8)(b)1, Wis. Adm. Code)

**(25)** “Land Conservation Committee” means

(a) the committee created by a county board under § 92.06, Wis. Stats. “Land conservation committee” includes employees or agents of a county land conservation committee whom, with committee authorization, act on behalf of the committee.

(b) that committee of the Door County Board of Supervisors which oversees the Soil and Water Conservation Department.

**(26)** “Landowner” means any person holding fee title, an easement or other interest in property, which allows the person to undertake cropping, livestock management, land disturbing construction activity or maintenance of storm water BMPs on the property. See also § ATCP 50.01(15), Wis. Adm. Code.

**(27)** “Liquid manure” has the meaning given in s. NR 243.03(32) when applied to facilities subject to Ch. NR 243, and the meaning given in UW A2809 for all other agricultural facilities where manure is generated.

*Notes: Copies of the University of Wisconsin – Extension publication A2809 Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin dated 2012 (A2809) may be inspected at the office of the Wisconsin Department of Natural Resources, the Wisconsin Department of Agriculture, Trade and Consumer Protection and the legislative reference bureau, Madison, Wisconsin. A2809 is also available electronically at:*

*<http://learningstore.uwex.edu/assets/pdfs/A2809.pdf>*  
§ NR 243.03(32), Wis. Adm. Code)

**(28)** “Livestock” means all domestic animals including bovine animals, sheep, goats, poultry, swine, farm-raised deer, equine animals, farm-raised game birds, camelids, ratites and fish, or any fenced-in animals.

**(29)** “Livestock facility” means a structure or system constructed or established on a livestock operation. (§ NR 151.015 (9), Wis. Adm. Code)

**(30)** “Livestock operation” has the meaning given in § 281.16 (1) (c), Wis. Stats. (§ NR 151.015 (11), Wis. Adm. Code)

**(31)** “Livestock producer” means an owner or operator of a livestock operation. (§ NR 151.015 (10), Wis. Adm. Code)

**(32)** “Livestock Structure” means a building or other structure used to house or feed livestock, to confine livestock for feeding, to store livestock feed, or to collect or store waste generated at a livestock facility...and includes a barn, milking parlor, feed storage facility, feeding facility, animal lot or waste storage facility (§ ATCP 51.01(20), Wis. Adm. Code).

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**(33)** “Long term no-till” means no-till farming that has been implemented a minimum of 3 consecutive years. (§ NR 151.015(11m), Wis. Adm. Code)

**(34)** “Manure” means livestock excreta...and includes the following when intermingled with excreta in normal farming operations: debris including bedding, water, soil, hair, and feathers; processing derivatives including separated sand, separated manure solids, precipitated manure sludges, supernatants, digested liquids, composted bio solids, and process water; and runoff collected from barnyards, animal lots, and feed storage areas. (§ ATCP 50.01(20), Wis. Adm. Code)

**(35)** “Manure management system” has the meaning given in § ATCP 50.62(1)(b), Wis. Adm. Code. (§ ATCP 50.01(21), Wis. Adm. Code)

**(36)** “Manure storage facility” means an impoundment made by constructing an embankment or excavating a pit or dugout or by fabricating a structure to contain manure and other animal or agricultural wastes. (§ ATCP 50.01(22) & § 50.62(1)(c), Wis. Adm. Code)

**(37)** “Manure storage structure” has the meaning given in § ATCP 50.62(1)(d), Wis. Adm. Code.

**(38)** “Margin of safety level” has the meaning given it in § NR 243.03(37), Wis. Adm. Code.

**(39)** “Mechanical application” means surface application, injection, or incorporation of manure on cropland or pastures using manure hauling vehicles or equipment. (§ NR 151.015 (13j), Wis. Adm. Code)

**(40)** “Navigable waters” or “navigable waterway” means any body of water which is navigable under the laws of this state.

**(41)** “Nonpoint source” means a land management activity which contributes to runoff, seepage or percolation which adversely affects or threatens the quality of waters of this state and which is not a point source under § 283.01(12), Wis. Stats. (§ NR 120.02 (24), Wis. Adm. Code)

**(42)** “Nonpoint source water pollution” means pollution of the waters of the state that does not result from a point source.

**(43)** “NRCS” means the Natural Resources Conservation Service of the U.S. Department of Agriculture.

**(44)** “Nutrient Management Plan” (NMP) means a written plan outlining the amounts, timing, locations, methods and other aspects regarding the land application of manure, commercial and other fertilizers, and process wastewater. A NMP includes a plan required under § ATCP 50.04(3) or § 50.62(5)(f), Wis. Adm. Code; and a farm NMP prepared or approved by a qualified nutrient management planner. A NMP must comply with § ATCP 50.04(3), Wis.

Adm. Code. (§ ATCP 50.01(28), Wis. Adm. Code)

**(45)** “Operator” means a person responsible for the oversight or management of equipment, facilities or livestock at a livestock operation, or is responsible for land management in the production of crops.

**(46)** “Ordinary high water mark” means the point on the bank or shore up to which the presence and action of surface water is so continuous as to leave a distinctive mark such as by erosion, destruction or prevention of terrestrial vegetation, predominance of aquatic vegetation, or other easily recognized characteristic. Where the bank or shore at any particular place is of such character that it is difficult or impossible to ascertain where the point of ordinary high-water mark is, recourse may be had to the opposite bank of a stream or to other places on the shore of a lake or flowage to determine whether a given stage of water is above or below the ordinary high-water mark. (§ NR 115.03(6) & § 151.002(30), Wis. Adm. Code)

**(47)** “Outstanding resource waters” means waters listed in § NR 102.10, Wis. Adm. Code.

**(48)** “Overflow” means discharge of manure to the environment resulting from flow over the brim of a facility or from flow directed onto the ground through a man-made device including a pump or pipe. (§ NR 151.015 (15e), Wis. Adm. Code)

**(49)** “Pasture” means land on which livestock graze or otherwise seek feed in a manner that maintains the vegetative cover over the grazing area. Pasture may include limited areas of bare soil such as cattle lanes and supplemental feeding areas provided the bare soil areas are not significant sources of pollution to waters of the state. (§ NR 151.015 (15m), Wis. Adm. Code)

**(50)** “Pathogens” has the meaning given in § NR 204.03(38), Wis. Adm. Code. (§ NR 151.015 (15n), Wis. Adm. Code)

**(51)** “Percent fines” means the percentage of a given sample of soil, which passes through a # 200 sieve. (§ NR 151.002 (32), Wis. Adm. Code)

**(52)** “Performance standard” means a narrative or measurable number specifying the minimum acceptable outcome for a facility or practice. (§ NR 151.002 (33), Wis. Adm. Code)

**(53)** “Permit” means the signed, written statement issued by the Door County Soil and Water Conservation Department under this ordinance authorizing the applicant to construct, install, reconstruct, substantially alter, or close a manure storage facility.

**(54)** “Permittee” means any person to whom a permit is issued under this Ordinance.

**(55)** “Phosphorus index” or “P-index” means Wisconsin’s agricultural land management planning

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tool for assessing the potential of a cropped or grazed field to contribute phosphorus to the surface water. (§ NR 151.015 (15s), Wis. Adm. Code)

**(56)** “Pre-tillage” means using mechanical equipment to reduce soil preferential flow paths, worm holes, root holes, and cracks by turning and mixing the soil prior to and at least 2 inches below the depth of manure application. (§ NR 151.015 (15w), Wis. Adm. Code)

**(57)** “Process wastewater” has the meaning given in § NR 243.03(53), Wis. Adm. Code. (§ NR 151.015 (16), Wis. Adm. Code)

**(58)** “Runoff” means storm water or precipitation including rain, snow, ice melt or similar water that moves on the land surface via sheet or channelized flow. (§ NR 151.002 (40), Wis. Adm. Code)

**(59)** “Silurian bedrock” means the area in Wisconsin where the bedrock consists of Silurian dolomite with a depth to bedrock of 20 feet or less. This area comprises portions of the following counties: Brown, Calumet, Dodge, Door, Fond du Lac, Kenosha, Kewaunee, Manitowoc, Milwaukee, Outagamie, Ozaukee, Racine, Sheboygan, Walworth, Washington, and Waukesha. Areas where Silurian bedrock occurs in Wisconsin can be identified by the most current NRCS, Wisconsin Geological Natural History Survey, Department of Agriculture, Trade and Consumer Protection, Department of Natural Resources, county maps, or infield bedrock verification methods. (§ NR 151.015 (17), Wis. Adm. Code)

**(60)** “Site that is susceptible to groundwater contamination” under s. 281.16 (1) (g), Stats., means any one of the following:

- (a) An area within 250 feet of a private well.
- (b) An area within 1000 feet of a municipal well.
- (c) An area within 300 feet upslope or 100 feet downslope of a direct conduit to groundwater.
- (d) A channel that flows to a direct conduit to groundwater.
- (e) An area where the soil depth to groundwater or bedrock is less than 2 feet.

(f) An area where the soil does not exhibit one of the following soil characteristics:

1. At least a 2-foot soil layer with 40% fines or greater above groundwater and bedrock.
2. At least a 3-foot soil layer with 20% fines or greater above groundwater and bedrock.
3. At least a 5-foot soil layer with 10% fines, or greater above groundwater and bedrock. (§ NR 151.015 (18), Wis. Adm. Code)

**(61)** “Soil and Water Conservation Department” means the Door County Soil and Water Conservation Department (SWCD). SWCD is responsible for the administration and enforcement of this ordinance.

**(62)** “Soil texture” means the surface texture of the Silurian bedrock soil map unit. (§ NR 151.015 (18g), Wis. Adm. Code)

**(63)** “Solid manure” has the meaning given in s. NR 243.03(58) when applied to facilities subject to Ch. NR 243, Wis. Adm. Code and the meaning given in UW A2809 for all other agricultural facilities where manure is generated.

*Notes: Copies of the University of Wisconsin – Extension publication A2809 Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin dated 2012 (A2809) may be inspected at the office of the Wisconsin Department of Natural Resources, the Wisconsin Department of Agriculture, Trade and Consumer Protection and the legislative reference bureau, Madison, Wisconsin. A2809 is also available electronically at:*

*<http://learningstore.uwex.edu/assets/pdfs/A2809.pdf>*  
(§ NR 151.015 (17), Wis. Adm. Code)

**(64)** “Stored manure” means manure that is kept in a manure storage facility or an unconfined manure pile. (§ NR 151.015 (19), Wis. Adm. Code)

**(65)** “Substantially altered” means a change initiated by an owner or operator that results in a relocation of a structure or facility or significant changes to the size, depth or configuration of a structure or facility including:

(a) Replacement of a liner in a manure storage structure.

(b) An increase in the volumetric capacity or area of a structure or facility by greater than 20%.

(c) A change in a structure or facility related to a change in livestock management from one species of livestock to another such as cattle to poultry.

(§ NR 151.015 (20), Wis. Adm. Code)

**(66)** “Technical standard” means a document that specifies design, predicted performance and operation and maintenance specifications for a material, device or method.

**(67)** “Tolerable soil loss” or “T” means the maximum rate of erosion, in tons per acre per year, allowable for particular soils and site conditions that will maintain soil productivity. (§ NR 151.015 (21), Wis. Adm. Code)

**(68)** “Unconfined manure pile” means a quantity of manure that is at least 175 ft<sup>3</sup> in volume and which covers the ground surface to a depth of at least 2 inches and is not confined within a manure storage facility, livestock housing facility or barnyard runoff control facility or covered or contained in a manner that prevents storm water access and direct runoff to surface water or leaching of pollutants to groundwater. (§ NR 151.015 (22), Wis. Adm. Code)

**(69)** “UW A2809” means the 2012 version of the

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University of Wisconsin – Extension Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin (A2809).

*Notes: Copies of the University of Wisconsin – Extension publication A2809 Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin dated 2012 (A2809) may be inspected at the Wisconsin Department of Natural Resources, the Wisconsin Department of Agriculture, Trade and Consumer Protection and the legislative reference bureau, Madison, Wisconsin. A2809 is also available electronically at:*

<http://learningstore.uwex.edu/assets/pdfs/A2809.pdf>

(70) “Water quality management area” or “WQMA” means any of the following:

(a) The area within 1,000 feet from the ordinary high–water mark of navigable waters that consist of a lake, pond or flowage, except that, for a navigable water that is a glacial pothole lake, “water quality management area” means the area within 1,000 feet from the high–water mark of the lake.

(b) The area within 300 feet from the ordinary high–water mark of navigable waters that consist of a river or stream.

(c) A site that is susceptible to groundwater contamination or that has the potential to be a direct conduit for contamination to reach groundwater. (§ NR 151.015 (24), Wis. Adm. Code and § 281.16(1)(g), Wis. Stats.)

(71) “Waters of the state” means those portions of Lake Michigan and Lake Superior within the boundaries of Wisconsin, all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, water courses, drainage systems and other surface water or groundwater, natural or artificial, public or private within the state or under its jurisdiction, except those waters which are entirely confined and retained completely upon the property of a person. (§ 281.16(1)(h) & § 283.01(20), Wis. Stats.)

(72) “Winter grazing area” means a cropland or pasture where livestock feed or dormant vegetation or crop residue, with or without supplementary feed, during the period of October 1 to April 30. (§ NR 151.015 (25), Wis. Adm. Code)

(73) “WPDES permit” means a Wisconsin pollutant discharge elimination system permit issued under Ch. 283, Stats. (§ NR 243.03(49), Wis. Stats.)

### Subchapter II – Administration.

**1.20 Delegation of Authority.** Door County hereby designates the Door County Soil and Water Conservation Department to administer and enforce this Ordinance.

**1.21 Administration.** The provisions of this Ordinance shall be administered by the Door County Soil and Water Conservation Department under the oversight of the Land Conservation Committee.

**1.22 Entry and Inspection Authority.** The Door County Soil and Water Conservation Department is authorized to enter upon any lands affected by this Ordinance to inspect the land to determine compliance with this Ordinance pursuant to the authority granted by § 92.07 (14), Wis. Stats. If permission cannot be received from the applicant or permittee, entry by the Door County Soil and Water Conservation Department shall be according to § 66.0119 and 66.0119 (3), Wis. Stats. Refusal to grant permission to enter lands affected by this Ordinance for purposes of inspection shall be grounds for order of non-compliance, permit denial or revocation.

### 1.23 Enforcement Authority.

(1) County may issue a citation, pursuant to and in accordance with § 66.0113 Wis. Stats. and Ch. 35 Door County Code.

(2) A cease and desist order may be issued by the Door County Soil and Water Conservation Department. The cease and desist order: may order that all operations on the property that do not conform to this Ordinance immediately cease; and must be reasonably specific and concrete, so as to fairly apprise wrongdoer of specific violation of this Ordinance and necessary remedial measures.

(3) County may institute other proceedings in any court of competent jurisdiction and pursue any remedy or relief afforded by law, including a civil forfeiture or injunction.

### Subchapter III – Agricultural Performance Standards and Prohibitions

#### 1.30 Activities Subject to Agricultural Performance Standards and Prohibitions.

(1) CROPPED LANDS. All land where crops or feed are grown shall be subject to Agricultural Performance Standards and Prohibitions.

(2) LIVESTOCK OPERATION. All livestock producers shall be subject to Agricultural Performance Standards and Prohibitions. Livestock producers and operations within water quality management areas (WQMA’s) have more comprehensive requirements. (§ 281.16(1)(c), Wis. Stats.)

(3) MANURE HANDLING, STORAGE AND APPLICATION. All manure shall be handled, stored and applied to lands in accordance with Agricultural Performance Standards and Prohibitions.

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**(4) APPLICATIONS OF MANURE, COMMERCIAL FERTILIZERS AND OTHER NUTRIENTS TO AGRICULTURAL LANDS.** All crop producers and livestock producers that apply manure or other nutrients directly or through contract to agricultural fields shall be applied in conformance with a nutrient management plan criteria established in § NR 151.07, Wis. Adm. Code.

### 1.31 Performance Standards and Prohibitions.

**(1) SHEET, RILL AND WIND EROSION.** All land where crops or feed are grown, including pastures, shall be managed to achieve a soil erosion rate equal to, or less than, the "tolerable" (T) rate established for that soil. This standard first applies to pastures beginning July 1, 2012. Wind erosion rates shall be calculated via the Wind Erosion Equation (WEQ) established by NRCS, and shall be equal to, or less than, the "tolerable" (T) rate established for that soil. (§ NR 151.02, Wis. Adm. Code)

### (2) MANURE STORAGE FACILITIES.

(a) *Applicability.* All livestock producers building new manure storage facilities, substantially altering manure storage facilities, or choosing to abandon their manure storage facilities shall comply with this section.

#### (b) *New construction and alterations.*

1. New or substantially altered manure storage facilities shall be designed, constructed and maintained to minimize the risk of structural failure of the facility, minimize leakage of the facility in order to comply with groundwater standards. The levels of materials in the storage facility may not exceed the margin of safety level.

2. Storage facilities that are constructed or significantly altered on or after January 1, 2011, shall be designed and operated to contain the additional volume of runoff and direct precipitation entering the facility as a result of a 25-year, 24-hour storm.

3. A new manure storage facility means a facility constructed after October 1, 2002.

4. A substantially altered manure storage facility is a manure storage facility that is substantially altered after October 1, 2002.

#### (c) *Closure.*

1. Closure of a manure storage facility shall occur when an operation where the facility is located ceases operations, or manure has not been added or removed from the facility for a period of 24 months. Manure facilities shall be closed in a manner that will prevent future contamination of groundwater and surface waters.

2. The owner or operator may retain the facility for a longer period of time by demonstrating to the

Soil and Water Conservation Department that all of the following conditions are met:

a. The facility is designed, constructed and maintained in accordance with 1.31(2)(b) of this ordinance.

b. The facility is designed to store manure for a period of time longer than 24 months.

c. Retention of the facility is warranted based on anticipated future use.

#### (d) *Existing facilities.*

1. Manure storage facilities in existence as of October 1, 2002, that pose an imminent threat to public health or fish and aquatic life or groundwater shall be upgraded, replaced or abandoned in accordance with this section.

2. Levels of materials in storage facilities may not exceed the margin of safety level.

**(3) CLEAN WATER DIVERSIONS (§ NR 151.06, Wis. Adm. Code)**

(a) All livestock producers within a water quality management area shall comply with this section.

(b) Runoff shall be diverted away from contacting feedlot, manure storage areas and barnyard areas within water quality management areas except that a diversion to protect a private well under § NR 151.015 (18)(a), Wis. Adm. Code is required only when the feedlot, manure storage area or barnyard area is located upslope from the private well.

**(4) NUTRIENT MANAGEMENT (§ NR 151.07, Wis. Adm. Code)**

(a) All crop producers and livestock producers that apply manure or other nutrients directly or through contract to agricultural fields shall comply with this section.

(b) This performance standard does not apply to the application of industrial waste and byproducts regulated under Ch. NR 214, Wis. Adm. Code municipal sludge regulated under Ch. NR 204, Wis. Adm. Code and septage regulated under Ch. NR 113, Wis. Adm. Code provided the material is not commingled with manure prior to application.

(c) Manure, commercial fertilizer and other nutrients shall be applied in conformance with a nutrient management plan as established in § ATCP 50.04 (3), Wis. Adm. Code.

1. The nutrient management plan shall be designed to limit or reduce the discharge of nutrients to waters of the state for the purpose of complying with state water quality standards and groundwater standards.

2. Nutrient management plans for croplands in watersheds that contain impaired surface waters or in watersheds that contain outstanding or exceptional resource waters shall meet the following criteria:

## AGRICULTURAL PERFORMANCE STANDARDS AND ANIMAL WASTE STORAGE ORDINANCE

a. Unless otherwise provided in this paragraph, the plan shall be designed to manage soil nutrient concentrations so as to maintain or reduce delivery of nutrients contributing to the impairment of impaired surface waters and to outstanding or exceptional resource waters.

b. The plan may allow for an increase in soil nutrient concentrations at a site if necessary to meet crop demands.

c. For lands in watersheds containing exceptional or outstanding resource waters, the plan may allow an increase in soil nutrient concentrations if the plan documents that any potential nutrient delivery to the exceptional or outstanding resource waters will not alter the background water quality of the exceptional or outstanding resource waters. For lands in watersheds containing impaired waters, the plan may allow an increase in soil nutrient concentrations if a low risk of delivery of nutrients from the land to the impaired water can be demonstrated.

3. In this standard, impaired surface waters are waters identified as impaired pursuant to 33 USC 1313 (d) (1) (A) and 40 CFR 130.7. Outstanding or exceptional resource waters are identified in Ch. NR 102.

(d) This section is in effect on January 1, 2005 for existing croplands under s. NR 151.09 (4) that are located within any of the following:

1. Watersheds containing outstanding or exceptional resource waters.
2. Watersheds containing impaired waters.
3. Source water protection areas defined in § NR 243.03 (61), Wis. Adm. Code.

(e) This section is in effect on January 1, 2008 for all other existing croplands under § NR 151.09 (4), Wis. Adm. Code.

(f) This section is in effect for all new croplands under § NR 151.09 (4), Wis. Adm. Code on October 1, 2003.

### (5) MANURE MANAGEMENT PROHIBITIONS.

(a) All livestock producers shall comply with this section.

(b) A livestock operation shall have no overflow of manure storage facilities.

(c) A livestock operation shall have no unconfined manure pile in a water quality management area.

(d) A livestock operation shall have no direct runoff from a feedlot or stored manure into the waters of the state.

(e) 1. A livestock operation may not allow unlimited access by livestock to waters of the state in a location where high concentrations of animals prevent the maintenance of adequate sod or self-

sustaining vegetative cover.

2. This prohibition does not apply to properly designed, installed and maintained livestock or farm equipment crossings.

### (6) TILLAGE SETBACK PERFORMANCE STANDARD (§ NR 151.03, Wis. Adm. Code)

(a) The purpose of this standards is to prevent tillage operations from destroying stream banks and depositing soil directly in surface waters. In this section, "surface water" has the meaning given in § NR 102.03(7), Wis. Adm. Code.

(b) No crop producer may conduct a tillage operation that negatively impacts stream bank integrity or deposits soil directly in surface waters.

(c) No tillage operations may be conducted within 5 feet of the top of the channel of surface waters. Tillage setbacks greater than 5 feet but no more than 20 feet may be required to meet this standard.

(d) Crop producers shall maintain the area within the tillage setback required under sub. (c) in adequate sod or self-sustaining vegetative cover that provides a minimum of 70% coverage.

(e) This section does not apply to grassed waterways installed as conservation practices.

### (7) PHOSPHORUS INDEX PERFORMANCE STANDARD (§ NR 151.04, Wis. Adm. Code)

(a) All crop and livestock producers shall comply with this section.

(b) Croplands, pastures, and winter grazing areas shall average a phosphorus index of 6 or less over the accounting period and may not exceed a phosphorus index of 12 in any individual year within the accounting period.

(c) Except as provided under par. (e), for purposes of compliance with this section the phosphorus index shall be calculated using the version of the Wisconsin Phosphorus Index available as of January 1, 2011.

*Notes: •The Wisconsin Phosphorus Index is maintained by the University of Wisconsin department of soil science and can be found at <http://wpindex.soils.wisc.edu/>*

*•Soil test phosphorus concentration may be used to help identify fields that are high priority for evaluation with the Wisconsin Phosphorus Index. For example, croplands with soil test phosphorus concentrations of 35 parts per million or greater should be given higher priority for evaluation.*

*•Best management practices developed by the Department of Agriculture, Trade and Consumer Protection may be used alone or in combination to meet the requirements of this section.*

(d) The accounting period required under par. (a) shall meet the following conditions:

1. The accounting period shall begin once a nutrient management plan meeting the requirements of § NR

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151.07 and § ATCP 50.04(3), Wis. Adm. Code is completed.

2. During the first 8 years of implementation of this standard by a producer, computation of the phosphorus index may be based on a combination of planned crop management and historic data. Planned crop management data is based on projected management and crop rotations. Historic data is based on management and crop rotations that have actually occurred.

3. Once the nutrient management plan under § NR 151.07 and § ATCP 50.04(3), Wis. Adm. Code is developed, historic data shall be used for each year as it becomes available.

(e) If the phosphorus index is not applicable to a particular crop or situation, an equivalent calculation approved by the department shall be used to meet the requirements of this section.

*Note: •The requirement provides for alternative methods to calculate a phosphorus index. Some strategies for assessing and reducing phosphorus index values, algorithms, and software can be found at <http://wpindex.soils.wisc.edu/>*

(f) Producers may not apply nutrients or manure directly, through mechanical means, to surface waters as defined in § NR 102.03(7), Wis. Adm. Code.

(g) The phosphorus index requirement under sub. (b) first takes effect for pastures beginning July 1, 2012.

**(8) PROCESS WASTEWATER HANDLING PERFORMANCE STANDARD (§ NR 151.055, Wis. Adm. Code)**

(a) All livestock producers shall comply with this section.

(b) There may be no significant discharge of process wastewater to waters of the state.

(c) The department shall consider all of the following factors when determining whether a discharge of process wastewater is a significant discharge to waters of the state:

1. Volume and frequency of the discharge.
2. Location of the source relative to receiving waters.
3. Means of process wastewater conveyance to waters of the state.
4. Slope, vegetation, rainfall, and other factors affecting the likelihood or frequency of process wastewater discharge to waters of the state.

5. Available evidence of discharge to a surface water of the state or to a direct conduit to groundwater as defined under § NR 151.002(11m), Wis. Adm. Code.

6. Whether the process wastewater discharge is to a site that is defined as a site susceptible to groundwater contamination under § NR

151.015(18), Wis. Adm. Code.

7. Other factors relevant to the impact of the discharge on water quality standards of the receiving water or to groundwater standards.

*Notes: Existing technical standards contained in the U.S. Department of Agriculture Natural Resources Conservation Service field office technical guide may be used for managing process wastewater. When such standards are not applicable, the landowner or operator is expected to take reasonable steps to reduce the significance of the discharge in accordance with the agricultural performance standard and prohibition compliance requirements of this chapter. The Wisconsin Department of Agriculture, Trade and Consumer Protection is responsible under s. 281.16(3)(c), Stats., for developing additional management practices if needed.*

**(9) SILURIAN BEDROCK PERFORMANCE STANDARD (§ NR 151.075, Wis. Adm. Code)**

(a) All crop producers and livestock producers that mechanically apply manure directly or through contract or other agreement to cropland or pasture areas that meet the definition of Silurian bedrock in 1.11(60) supra and under § NR 151.015(17), Wis. Adm. Code must comply with this section.

(b) Mechanical manure application may not cause the fecal contamination of water in a well.

(c) Manure may not be mechanically applied on areas of cropland or pastures that have 24 inches or less of separation between the ground surface and apparent water table.

(d) Manure must be applied in conformance with a nutrient management plan that meets the requirements under all the following:

1. The plan must be consistent with s. NR 151.07, Wis. Adm. Code.
2. The plan must be consistent with NRCS Technical Standard 590, dated December 2015 or the most current version of NRCS Technical Standard 590.

*Note: Copies of the NRCS Nutrient Management Standard 590, dated December 2015, including the Technical Note (TN-1) referenced in the standard, may be inspected at the offices of the Wisconsin Department of Natural Resources, the Wisconsin Department of Agriculture, Trade and Consumer Protection, Door County Soil & Water Conservation Department and the Legislative Reference Bureau, Madison Wisconsin. NRCS 590 (and TN-1) is also available electronically at:*

*[https://efotg.sc.egov.usda.gov/references/public/WI/590\\_Standard-\(2015-12\).pdf](https://efotg.sc.egov.usda.gov/references/public/WI/590_Standard-(2015-12).pdf) and <https://efotg.sc.egov.usda.gov/references/public/WI/Conservation-Planning-TN-1.pdf>*

3. The plan must be designed and implemented

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consistent with this section and § NR 151.075, Wis. Adm. Code to manage manure so as to reduce the risk of pathogen delivery to groundwater and prevent exceedances of groundwater water quality standards.

4. The plan must use NRCS soil survey maps/information or other methods as a planning tool to identify Silurian bedrock within or adjacent to cropland and pastures.

(e) Manure may not be mechanically applied on croplands or pastures until infield bedrock verification or Silurian bedrock map information is used to identify areas where the Silurian bedrock soil depth is less than 5 feet. If infield bedrock verification uses drill cores or other subsurface investigations, they must be backfilled with soil within 72 hours of being created.

*Note: Silurian bedrock map information developed by the Wisconsin Department of Agriculture, Trade and Consumer Protection and/or Department of Natural Resources, may be used alone or in combination to meet the requirements of s. NR 151.075, Wis. Adm. Code, and this section.*

*Note: Silurian bedrock map information, available from the University of Wisconsin department of soil science, can be found at*

*<https://snapplus.wis.edu/maps/>.*

(f) Manure may not be mechanically applied on croplands or pastures where the Silurian bedrock soil depth is less than 5 feet until such fields are evaluated and ranked for risk of pathogen delivery to groundwater. Areas determined to have a high risk for pathogen delivery to groundwater must be avoided or must be lowest priority for manure application.

(g) Mechanical application of manure and headland stacking of manure is prohibited on soils with 5 feet or less to Silurian bedrock when soils are frozen or snow covered.

(h) Mechanical application of manure is prohibited within Silurian bedrock having soil depths less than 5 feet when rainfall greater than one inch is forecast within 24 hours of planned application.

(i) Mechanical application of manure is prohibited for soils with less than 2 feet to Silurian bedrock.

(j) For soils with 2 to 3 feet to Silurian bedrock, all the following apply:

1. No mechanical application of solid manure unless all the following are met:

a. Solid manure is incorporated within 72 hours to no more than 4 inches below ground.

b. At least one of the following is implemented:

1) Solid manure is applied at a rate no greater than 15 tons/ acre/year, or the rate that supplies the crop nitrogen recommendation from UW A2809, whichever is less.

2) Solid manure is applied in compliance with UW A2809 and within 10 days of the planting date or applied on a perennial or established crop.

3) Solid manure is composted or treated to reduce pathogen levels via practices to a fecal coliform bacteria density of less than 500,000 colony-forming units or most probable number per gram total solids on a dry weight basis.

*Note: Copies of the University of Wisconsin - Extension publication A2809 Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin, dated 2012 (A2809) may be inspected at the office of the Wisconsin Department of Natural Resources, the Wisconsin Department of Agriculture, Trade and Consumer Protection and the Legislative Reference Bureau, Madison, Wisconsin. A2809 is also available electronically at:*

*<http://learningstore.uwex.edu/assets/pdfs/A2809.pdf>.*

2. No mechanical application of liquid manure unless all the following are met:

a. Pre-tillage is completed, unless exempt under par. 3. or 4.

b. Liquid manure is injected or incorporated within 24 hours to no more than 4 inches below ground, unless exempt under par. 3.

c. At least one of the following is implemented:

1) Total liquid manure applications is applied in compliance with UW A2809, or limited to *Table 1* (attached hereto as *Addendum 1* and incorporated herein by reference as if fully set forth), whichever is less, to prevent hydraulic overloading of the soil.

2) Liquid manure is applied in compliance with UW A2809 and within 10 days of the planting date or applied on a perennial or established crop.

3) Liquid manure is treated to substantially reduce pathogen levels via practices to a fecal coliform bacteria density of less than 500,000 most probable number or colony-forming units per 100 milliliter sample.

*Note: Copies of the University of Wisconsin - Extension publication A2809 Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin, dated 2012 (A2809) may be inspected at the office of the Wisconsin Department of Natural Resources, the Wisconsin Department of Agriculture, Trade and Consumer Protection and the Legislative Reference Bureau, Madison, Wisconsin. A2809 is also available electronically at:*

*<http://learningstore.uwex.edu/assets/pdfs/A2809.pdf>.*

3. Pre-tillage, incorporation or injection is not required if cropland or pastures meet long term no-till or have a perennial or established crop. Each

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surface application of liquid manure must not exceed 6,750 gallons per acre.

4. Pre-tillage is not required if demonstrated to the department that a field cannot meet § NR 151.02, Wis. Adm. Code over an eight-year crop rotation using a combination of the following practices: tillage, crops, contouring, filter strips, or cover crops.

(k) For soils with 3-5 feet to Silurian bedrock, all the following apply:

1. No mechanical application of solid manure unless all the following are met:

a. Incorporated with 72 hours to no more than 6 inches below ground.

b. At least one of the following is implemented:

1) Manure is applied in accordance with UW A2809 annual application rate, or at a rate of 15 tons/acre/year, whichever is less.

2) Manure is applied in compliance with UW A2809 and within 10 days of the planting date or applied on a perennial or established crop.

3) Manure is composted or treated to reduce pathogen levels via practices to a fecal coliform bacteria density of 500,000 colony-forming units, or most probable number per gram total solids on a dry weight basis.

*Note: Copies of the University of Wisconsin - Extension publication A2809 Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin, dated 2012 (A2809) may be inspected at the office of the Wisconsin Department of Natural Resources, the Wisconsin Department of Agriculture, Trade and Consumer Protection and the Legislative Reference Bureau, Madison, Wisconsin. A2809 is also available electronically at:*  
<http://learningstore.uwex.edu/assets/pdfs/A2809.pdf>.

2. No mechanical application of liquid manure unless all the following are met:

a. Pre-tillage is completed unless exempt under par. 3. or 4.

b. Liquid manure is injected or incorporated within 24 hours to no more than 6 inches below ground, unless exempt under par. 3.

c. At least one of the following is implemented:

1) Total liquid manure application is applied in compliance with UW A2809, or limited to sub. (j) 2. c. *Table 1* rates, whichever is less, to prevent hydraulic overloading of the soil.

2) Liquid manure is applied in compliance with UW A2809 and within 10 days of the planting date or applied on a perennial or established crop.

3) Liquid manure is treated to substantially reduce pathogen levels via practices to a fecal coliform bacteria density of less than 500,000

most probable number or colony-forming units per 100 milliliter sample.

*Note: Copies of the University of Wisconsin - Extension publication A2809 Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin, dated 2012 (A2809) may be inspected at the office of the Wisconsin Department of Natural Resources, the Wisconsin Department of Agriculture, Trade and Consumer Protection and the Legislative Reference Bureau, Madison, Wisconsin. A2809 is also available electronically at:*

<http://learningstore.uwex.edu/assets/pdfs/A2809.pdf>.

3. Pre-tillage, incorporation or injection is not required if cropland or pastures meet long term no-till or have a perennial or established crop. Each surface application of liquid manure must not exceed 6,750 gallons per acre.

4. Pre-tillage is not required if demonstrated to the department that a field cannot meet § NR 151.02, Wis. Adm. Code over an eight-year crop rotation using a combination of the following practices: tillage, crops, contouring, filter strips, or cover crops.

(l) For soils with 5 to 20 feet Silurian bedrock, all the following apply:

1. No mechanical application of liquid manure unless all the following are met:

a. Pre-tillage is completed unless exempt under par. 2. or 3.

b. Liquid manure is injected or incorporated with 24 hours to no more than 6 inches below ground, unless exempt under par. 2.

c. At least one of the following is implemented:

1) Total liquid manure application is applied in compliance with UW A2809, or limited to sub. (j) 2. c. *Table 1* rates, whichever is less, to prevent hydraulic overloading of the soil.

2) Liquid manure is applied in compliance with UW A2809 and within 10 days of the planting date or applied on a perennial or established crop.

3) Liquid manure is treated to substantially reduce pathogen levels via practices to a fecal coliform bacteria density of less than 500,000 most probable number of colony-forming units per 100 milliliter sample.

*Note: Copies of the University of Wisconsin - Extension publication A2809 Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin, dated 2012 (A2809) may be inspected at the office of the Wisconsin Department of Natural Resources, the Wisconsin Department of Agriculture, Trade and Consumer Protection and the Legislative Reference Bureau, Madison, Wisconsin. A2809 is also available electronically at:*

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<http://learningstore.uwex.edu/assets/pdfs/A2809.pdf>.

2. Pre-tillage, incorporation or injection is not required if cropland or pastures meet long term no-till or have a perennial or established crop. Each surface application of liquid manure must not exceed 10,000 gallons per acre.

3. Pre-tillage is not required if demonstrated to the department that a field cannot meet s. NR 151.02, Wis. Adm. Code over an eight-year crop rotation using a combination of the following practices: tillage, crops, contouring, filter strips, or cover crops.

*Note: Silurian bedrock map information for soils with 5 to 20 feet to Silurian bedrock, developed by the Wisconsin Department of Agriculture, Trade and Consumer Protection and/or Department of Natural Resources, may be used alone or in combination to meet the requirements of this section.*

(m) Mechanical manure applications are prohibited within any of the following:

1. 1000 feet of a community water system as defined in § NR 811.02, Wis. Adm. Code.

2. 250 feet of a private water system or a non-community water system as defined in § NR 812.07, Wis. Adm. Code.

3. An area within 300 feet upslope or 100 feet downslope of a direct conduit to groundwater as defined in § NR 151.002(11m), Wis. Adm. Code.

4. 100 feet of a concentrated flow channel that leads to a water system included in par. 1. or 2. or direct conduit to groundwater in par. 3.

(n) Mechanical manure applications are prohibited on or within 100 feet of Silurian bedrock in a closed depression unless the manure is injected or incorporated with 24 hours or prior to precipitation capable of producing runoff, whichever comes first. The prohibition of mechanical application of manure does not apply to areas following long term no-till practices or with a perennial or established crop.

(o) No surface application of manure on slopes of 6 percent or greater in cropland and pasture areas that have concentrated flow channels that drain to a closed depression in Silurian bedrock, unless the material is incorporated with 24 hours or prior to precipitation capable of producing runoff, whichever comes first. The prohibition of surface application of manure does not apply to areas following long term no-till practices or with a perennial or established crop.

(p) Practices must retain land applied manure on the soil where they are applied with minimal movement to maintain setback distances specified in subs (m) and (n).

**1.32 Cost-sharing required.** An owner or operator of an agricultural facility or practice that is in existence

before the effective date of the performance standard or prohibition, may not be required to comply with the performance standards, prohibitions, conservation practices or technical standards under this ordinance unless cost-sharing is available from any source, to the owner or operator. A determination that cost-sharing is available to meet the performance standards, prohibitions, conservation practices or technical standards under this subsection will be determined in accordance with § NR 151.09 (4) (d) or § NR 151.095 (5) (d), Wis. Adm. Code when funding is provided under § 281.65, Wis. Stats., and will be determined in accordance with Ch. ATCP 50, Wis. Adm. Code when funds are from any other source. Cost-sharing under this section is only required for the minimum practice(s) necessary to meet the performance standards and prohibitions.

### 1.33 Implementation and Enforcement Procedures for Cropland Performance Standards.

#### (1) LANDOWNER AND OPERATOR REQUIREMENTS.

(a) *Introduction.* This section identifies compliance requirements for landowners and operators based on whether the cropland is existing or new and whether cost sharing is required and made available to the landowner or operator. This section will also identify circumstances under which an owner or operator of cropland is required to comply with the cropland performance standards. In this section, "cropland performance standards" means performance standards in § NR 151.005, 151.02, 151.03, 151.04, 151.07, and 151.075.

(b) *General requirements.* If any cropland is meeting a cropland performance standard on or after the effective date of the standard, the cropland performance standard shall continue to be met by the existing landowner or operator, heirs or subsequent owners or operators of the cropland. If a landowner or operator alters or changes the management of the cropland in a manner that results in noncompliance with the performance standard, the landowner or operator shall bring the cropland back into compliance, regardless of whether cost-sharing is made available. This paragraph does not apply to croplands completing enrollment determined to be existing under the conservation reserve or conservation reserve enhancement program administered by the United States Department of Agriculture.

(c) *Existing cropland requirements.*

1. A landowner or operator of an existing cropland, defined under sub. (2) (b), shall comply with a cropland performance standard if all of the following have been done by the Soil and Water Conservation Department:

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a. Except as provided in subd. 2. and 3., a determination is made that cost sharing has been made available in accordance with section 1.32 on or after the effective date of the performance standard or prohibition.

b. The landowner or operator has been notified in accordance with sub. (3) or (4).

2. A landowner or operator of existing cropland, defined under sub. (2) (b), shall comply with a cropland performance standard, regardless of whether cost sharing is available, in situations where the best management practices and other corrective measures needed to meet the performance standards do not involve eligible costs.

3. A landowner or operator of an existing cropland that voluntarily proposes to construct or reconstruct a manure storage system shall comply with section 1.30 (4), regardless of whether cost sharing is made available, if the nutrient management plan is required pursuant to a local permit for the manure storage system.

(d) *New cropland requirements.* A landowner or operator of a new cropland, defined under sub. (2) (b), shall comply with the cropland performance standards, regardless of whether cost sharing is available.

### (2) SOIL AND WATER CONSERVATION DEPARTMENT DETERMINATIONS.

(a) *Scope of determinations.* If croplands are not in compliance with a cropland performance standard, the Soil and Water Conservation Department shall make determinations in accordance with the procedures and criteria in this subsection.

(b) *Cropland status.* The Soil and Water Conservation Department shall classify non-complying croplands to be either new or existing for purposes of administering this ordinance. In making the determination, the Soil and Water Conservation Department shall base the decision on the following:

1. An existing cropland is one that meets all of the following criteria:

a. The cropland was being cropped as of the effective date of the performance standard or prohibition.

b. The cropland is not in compliance with a cropland performance standard in this subchapter as of the effective date of the standard. The reason for non-compliance of the cropland may not be failure of the landowner or operator to maintain an installed best management practice in accordance with a cost-share agreement or contract.

2. An existing cropland also includes land enrolled on October 1, 2002, in the conservation reserve or conservation reserve enhancement program administered by the United States Department of Agriculture. This subdivision does

not apply to croplands re-enrolled after October 1, 2002.

3. A new cropland is one that does not meet the definition under subd. 1. or 2., including:

a. Land without a previous history of cropping that is converted to cropland after the effective date of the performance standard or prohibition. "Without a previous history of cropping" means land where crops have not been grown and harvested for agricultural purposes in the last 10 years prior to the conversion to cropland.

b. Cropland that is in existence and in compliance with a performance standard on or after the effective date of the performance standard or prohibition and that undergoes a change in a cropland practice that results in noncompliance with the performance standards.

4. Change in ownership may not be used as the sole basis for determining whether a cropland is existing or new for purposes of administering this subsection.

(c) *Eligible costs.* If cost sharing is required to be made available under sub. (1) (c), the Soil and Water Conservation Department shall determine the total cost of best management practices and corrective measures needed to bring a cropland into compliance with performance standards and shall determine which of those costs are eligible for cost-sharing.

### (3) NOTIFICATION REQUIREMENTS AND COMPLIANCE PERIODS FOR EXISTING CROPLANDS WHEN COST-SHARING IS REQUIRED.

(a) *Landowner notification.*

1. The Soil and Water Conservation Department shall notify a landowner or operator in writing of the determinations made under sub. (2) and implementation requirements for existing croplands where cost sharing is required for compliance.

2. The notice shall be sent certified mail, return receipt requested or personal delivery.

3. The following information shall be included in the notice:

a. A description of the cropland performance standard being violated.

b. The cropland status determination made in accordance with sub. (2) (b).

c. The determination made in accordance with sub. (2) (c) as to which best management practices or other corrective measures that are needed to comply with cropland performance standards are eligible for cost sharing.

d. The determination made in accordance with section 1.32 that cost sharing is available for eligible costs to achieve compliance with cropland performance standards, including a written offer of

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cost sharing.

e. An offer to provide or coordinate the provision of technical assistance.

f. A compliance period for meeting the cropland performance standard.

g. An explanation of the possible consequences if the landowner or operator fails to comply with provisions of the notice, including enforcement or loss of cost sharing, or both.

h. An explanation of local appeals procedures.

(b) *Compliance period.*

1. A landowner or operator that receives the notice under par. (a) shall install or implement best management practices and corrective measures to meet the performance standards in the time period specified in the notice, if cost sharing is available in accordance section 1.32.

2. The compliance period identified in the notice in par. (a) shall be determined by the Soil and Water Conservation Department as follows:

a. The compliance period shall begin on the postmark date of the notice or the date of personal delivery.

b. The length of the compliance period shall be from 60 days to 3 years unless otherwise provided for in this subdivision.

c. The length of the compliance period may be less than 60 days if the site is an imminent threat to public health, fish and aquatic life.

d. The Soil and Water Conservation Department may authorize an extension up to 4 years on a case-by-case basis provided that the reasons for the extension are beyond the control of the landowner or operator. A compliance period may not be extended to exceed 4 years in total.

3. Once a landowner or operator achieves compliance with a cropland performance standard, compliance with the standard shall be maintained by the existing landowner or operator and heirs or subsequent owners, regardless of cost sharing.

### (4) NOTIFICATION REQUIREMENTS AND COMPLIANCE PERIODS FOR EXISTING CROPLANDS IN SITUATIONS WHEN NO ELIGIBLE COSTS ARE INVOLVED.

(a) *Landowner notification.*

1. The Soil and Water Conservation Department shall notify a non-complying landowner or operator of existing croplands of the determinations made under sub. (2).

2. The notice shall be sent certified mail, return receipt requested, or via personal delivery.

3. The following information shall be included in the notice:

a. A description of the cropland performance standard that is being violated and the

determination that corrective measures do not involve eligible costs under sub. (2) (c).

b. The cropland status determination made in accordance with sub. (2) (b).

c. A compliance period for achieving the cropland performance standard. The compliance period may not exceed the time limits in par. (b).

d. An explanation of the consequences if the landowner or operator fails to comply with provisions of the notice.

e. An explanation of local appeals procedures.

(b) *Compliance period.*

1. The compliance period for existing croplands where best management practices and other corrective measures do not involve eligible costs shall be in accordance with the following:

a. The compliance period shall begin on the postmark date of the notice or the date of personal delivery.

b. The length of the compliance period shall be from 60 days nor more than 3 years unless otherwise provided for in this subsection.

c. The length of the compliance period may be less than 60 days if the site is an imminent threat to public health, fish and aquatic life.

2. Once compliance with a cropland performance standard is attained, compliance with the standard shall be maintained by the existing landowner or operator and heirs or subsequent owners.

(c) *Combined notices.* The Soil and Water Conservation Department may meet multiple notification requirements under par. (a), sub. (3) and section 1.34 within any single notice issued to a landowner or operator.

### 1.34 Implementation and Enforcement Procedures for Livestock Performance Standards and Prohibitions.

#### (1) LIVESTOCK OWNER AND OPERATOR REQUIREMENTS.

(a) *Introduction.* This section identifies compliance requirements for a livestock owner or operator based on whether a livestock facility is existing or new and whether cost sharing is required to be made available to a livestock owner or operator. This section will also identify circumstances under which an owner or operator of a livestock facility is required to comply with livestock performance standards and prohibitions. In this section, "livestock performance standards and prohibitions" means the performance standards and prohibitions in ss. NR 151.005, 151.05, 151.055, 151.06 and 151.08.

(b) *General requirements.* If any livestock facility is meeting a livestock performance standard or

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prohibition on or after the effective date of the livestock performance standard or prohibition, the livestock performance standard or prohibition shall continue to be met by the existing owner or operator, heirs or subsequent owners or operators of the facility. If an owner or operator alters or changes the management of the livestock facility in a manner that results in noncompliance with a livestock performance standard or prohibition, the owner or operator shall bring the livestock facility back into compliance regardless of cost-share availability.

(c) *Existing livestock facility requirements.*

1. An owner or operator of an existing livestock facility, defined under sub. (2) (b), shall comply with a livestock performance standard or prohibition if all of the following have been done by the Soil and Water Conservation Department:

a. Except as provided in subd. 2., a determination is made that cost sharing has been made available in accordance with section 1.32 on or after the effective date of the livestock performance standard or prohibition.

b. The owner or operator of the livestock facility has been notified in accordance with sub. (3) or (4).

2. An owner or operator of an existing livestock facility, defined under sub. (2) (b), shall comply with the livestock performance standards and prohibitions, regardless of whether cost sharing is available, in situations where best management practices and other corrective measures needed to meet the performance standards do not involve eligible costs.

(d) *New livestock facility requirements.* An owner or operator of a new livestock facility, defined under sub. (2) (b), shall comply with the livestock performance standards and prohibitions, regardless of whether cost sharing is available.

### (2) SOIL AND WATER CONSERVATION DEPARTMENT DETERMINATIONS.

(a) *Scope of determinations.* If a livestock facility is not in compliance with a livestock performance standard or prohibition, the Soil and Water Conservation Department shall make determinations in accordance with the procedures and criteria in this subsection.

(b) *Livestock facility status.* The Soil and Water Conservation Department shall classify a non-complying livestock facility on an operation to be either new or existing for purposes of administering this ordinance. In making the determination, the Soil and Water Conservation Department shall base the decision on the following:

1. An existing livestock facility is one that meets all of the following criteria:

a. The facility is in existence as of the effective

date of the livestock performance standard or prohibition.

b. The facility is not in compliance with a livestock performance standard or prohibition in this subchapter as of the effective date of the livestock performance standard or prohibition. The reason for noncompliance of the livestock facility may not be failure of the owner or operator to maintain an installed best management practice in accordance with a cost-share agreement or contract.

2. A new livestock operation or facility is one that does not meet the definition under subd. 1., including:

a. A livestock operation or facility that is established or installed after the effective date of the livestock performance standard or prohibition, including the placement of livestock structures on a site that did not previously have structures, or placement of animals on lands that did not have animals as of the effective date of the livestock performance standard or prohibition, unless the land is part of an existing rotational grazing or pasturing operation.

b. For a livestock operation that is in existence as of the effective date of the livestock performance standard or prohibition that establishes or constructs or substantially alters a facility after the effective date of the livestock performance standard or prohibition, the facilities constructed, established or substantially altered after the effective date of the livestock performance standard or prohibition are considered new, except as specified in subd. 3.

c. A livestock facility that is in existence and in compliance with a livestock performance standard or prohibition on or after the effective date of the livestock performance standard or prohibition and that undergoes a change in the livestock facility that results in noncompliance with the livestock performance standard or prohibition. This includes manure storage facilities that fail to meet the requirements of § NR 151.05 (3), Wis. Adm. Code and were either: constructed on or after October 1, 2002; or were constructed prior to October 1, 2002, and subject through October 1, 2002, to the operation and maintenance provisions of a cost share agreement.

3. Pursuant to the implementation procedures in this section, if the Soil and Water Conservation Department or a municipality directs an owner or operator of an existing livestock facility to construct a facility as a corrective measure to comply with a performance standard or prohibition on or after the effective date of the livestock performance standard or prohibition, or directs the owner or operator to

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reconstruct the existing facility as a corrective measure on or after the effective date of the livestock performance standard or prohibition, the constructed facilities are not considered new for purposes of installing or implementing the corrective measure.

4. A livestock facility that meets the criteria in subd. 1. and has subsequently been abandoned shall retain its status as an existing livestock facility if livestock of similar species and number of animal units are reintroduced within 5 years of abandonment.

5. Change in ownership may not be used as the basis for determining whether a livestock facility is existing or new for purposes of administering this subsection.

(c) *Eligible costs.* If cost sharing is required to be made available under sub. (1) (c), the Soil and Water Conservation Department shall determine the total cost of best management practices and corrective measures needed to bring a livestock facility into compliance with a livestock performance standard or prohibition and shall determine which of those costs are eligible for cost sharing.

### (3) NOTIFICATION REQUIREMENTS AND COMPLIANCE PERIODS FOR EXISTING LIVESTOCK FACILITIES WHEN COST-SHARING IS REQUIRED.

(a) *Owner or operator notification.*

1. The Soil and Water Conservation Department shall notify an owner or operator in writing of the determinations made under sub. (2) and implementation requirements for existing livestock facilities where cost sharing is required for compliance.

2. The notice shall be sent certified mail, return receipt requested or personal delivery.

3. The following information shall be included in the notice:

a. A description of the livestock performance standard or prohibition being violated.

b. The livestock facility status determination made in accordance with sub. (2) (b).

c. The determination made in accordance with sub. (2) (c) as to which best management practices or other corrective measures needed to comply with a livestock performance standard or prohibition are eligible for cost sharing.

d. The determination made in accordance with section 1.32 that cost sharing is available for eligible costs to achieve compliance with a livestock performance standard or prohibition, including a written offer of cost sharing.

e. An offer to provide or coordinate the provision of technical assistance.

f. A compliance period for meeting the livestock performance standard or prohibition.

g. An explanation of the possible consequences if the owner or operator fails to comply with provisions of the notice, including enforcement or loss of cost sharing, or both.

h. An explanation of local appeals procedures.

(b) *Compliance period.*

1. An owner or operator that receives the notice under par. (a) shall install or implement best management practices and corrective measures to meet a performance standard or prohibition in the time period specified in the notice, if cost sharing is available in accordance with section 1.32.

2. The compliance period identified in the notice in par. (a) shall be determined by the Soil and Water Conservation Department as follows:

a. The compliance period shall begin on the post-mark date of the notice or the date of personal delivery.

b. The length of the compliance period shall be not less than 60 days nor more than 3 years unless otherwise provided for in this subdivision.

c. The length of the compliance period may be less than 60 days if the site is an imminent threat to public health or fish and aquatic life.

d. The Soil and Water Conservation Department may authorize an extension up to 4 years on a case-by-case basis provided that the reasons for the extension are beyond the control of the owner or operator of the livestock facility. A compliance period may not be extended to exceed 4 years in total.

3. Once an owner or operator achieves compliance with a livestock performance standard or prohibition, compliance with the standard or prohibition shall be maintained by the existing owner or operator and heirs or subsequent owners or operators, regardless of cost sharing.

### (4) NOTIFICATION REQUIREMENTS AND COMPLIANCE PERIODS FOR EXISTING LIVESTOCK FACILITIES IN SITUATIONS WHEN NO ELIGIBLE COSTS ARE INVOLVED.

(a) *Owner or operator notification.*

1. The Soil and Water Conservation Department shall notify a non-complying owner or operator of an existing livestock facility of the determinations made under sub. (2).

2. The notice shall be sent certified mail, return receipt requested or personal delivery.

3. The following information shall be included in the notice:

a. A description of the livestock performance standard or prohibition that is being violated and the determination that corrective measures do not

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involve eligible costs under sub. (2) (c).

b. The livestock operation status determination made in accordance with sub. (2) (b).

c. A compliance period for meeting the livestock performance standard or prohibition. The compliance period may not exceed the time limits in par. (b).

d. An explanation of the consequences if the owner or operator fails to comply with provisions of the notice.

e. An explanation of local appeals procedures.

(b) *Compliance period.*

1. The compliance period for existing livestock facilities where best management practices and other corrective measures do not involve eligible costs shall be in accordance with the following:

a. The compliance period shall begin on the postmark date of the notice or the date of personal delivery.

b. The length of the compliance period shall not be less than 60 days nor more than 3 years unless otherwise provided for in this subdivision.

c. The length of the compliance period may be less than 60 days if the site is an imminent threat to public health, or fish and aquatic life.

2. Once compliance with a livestock performance standard or prohibition is attained, compliance with the performance standard or prohibition shall be maintained by the existing owner or operator and heirs or subsequent owners or operators.

(c) *Combined notices.* The Soil and Water Conservation Department may meet multiple notification requirements under par. (a), sub. (3) and section 1.33 within any single notice issued to the owner or operator.

### **1.35 Variances.** (§ NR 151.097, Wis. Adm. Code)

(1) **REQUESTS.** Requests for a variance to the performance standards shall be made in writing to the Soil and Water Conservation Department, and accompanied by payment of the applicable fee. Requests shall be reviewed by the Soil and Water Conservation Department prior to submittal to Department of Natural Resources and shall include:

(a) clearly-stated rationale and justification for requesting the variance.

(b) any permit applications required by this ordinance.

(c) any facility or operational plans as required by this ordinance.

(2) **ECONOMIC HARDSHIP.** A variance shall not be granted solely on the basis of economic hardship.

(3) **CONDITIONS.** The Soil and Water Conservation Department may recommend a variance

to Department of Natural Resources only if all of the following conditions are met:

(a) Compliance with the performance standard or technical standard is not feasible due to site conditions. This condition does not apply to research activities conducted as part of a planned agricultural research and farming curriculum.

(b) The landowner or operator will implement best management practices or other corrective measures that ensure a level of pollution control that will achieve a level of water quality protection comparable to that afforded by the performance standards in this subchapter.

(c) The conditions for which the variance is requested are not created by the landowner or operator or their agents or assigns. This condition does not apply to research activities conducted as part of a planned agricultural research and farming curriculum.

(4) **PROCESS.** The Soil and Water Conservation Department shall use the following process when administering a variance request:

(a) The landowner or operator shall submit the variance request and applicable fee to the Soil and Water Conservation Department within 60 days of receiving the notice.

(b) The Soil and Water Conservation Department shall immediately forward any variance requests that it receives to the Department of Natural Resources. The Soil and Water Conservation Department shall send any recommendations concerning acceptance of the variance request to the Department of Natural Resources within 10 working days of receiving the variance request.

(c) The Department of Natural Resources shall make its determination based on the factors in § NR 151.097(3), Wis. Adm. Code.

(d) The Department of Natural Resources shall notify the landowner or operator and the Soil and Water Conservation Department of its determination. If the variance is granted, the Department of Natural Resources or Soil and Water Conservation Department shall send to the landowner or operator an amended notice.

(e) The period of time required to make a ruling on a variance request does not extend the compliance periods allowed under § NR 151.09 and 151.095, Wis. Adm. Code.

### **Subchapter IV – Manure Storage Construction Permit**

**1.40 Permit Required.** (1) No existing or proposed manure storage facility or parts thereof, may be located, installed, moved, substantially altered, or its use changed, including closure, without a Manure

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Storage Construction Permit as provided in this Ordinance, without compliance with the provisions of this Ordinance, and without compliance with USDA-NRCS Technical Guide as adopted as part of this Ordinance. The specific conditions under which a permit is required are shown in Table 2.

<b>TABLE 2 Permits required for manure storage facilities</b>	
New	All construction of manure storage facilities as of the effective date of this Ordinance.
Existing	All substantial alteration, repair, or replacement of existing manure storage facilities.
	All closure of idle, failing, or leaking manure storage facilities; including voluntary closures of existing systems.

(2) With the exception of the closure of manure storage facilities, those receiving Manure Storage Construction Permit issued under authority of this Ordinance shall be required to implement an approved nutrient management plan and verify the ability of the applicant to comply with USDA-NRCS Technical Standard for Nutrient Management (590). Manure storage facility closures are required to remove and properly dispose of all accumulated manures and contaminated soil in the manure storage facility in compliance with USDA-NRCS Technical Standard for Nutrient Management (590).

(3) The requirements of this Ordinance shall be in addition to any other Ordinance regulating animal manure and nutrient management. In the case of conflict, the most stringent provisions shall apply.

**1.41 Exception to Permit Requirements.**

(1) Emergency minor repairs to facilities such as fixing a broken pipe or equipment, leaking dykes or the removal of stoppages may be performed without a permit. Such work shall be reported to the Door County Soil and Water Conservation Department as soon as possible for a determination as to whether a permit will be required or additional alterations or repairs to the facility are required. The Door County Soil and Water Conservation Department shall render a decision within thirty (30) days of receiving the request.

(2) Permit applicants may request that the Door County Soil and Water Conservation Department waive specific manure storage construction plan components in Section 1.43 (1) if manure storage facility alterations, repairs or replacements render the construction plan components

unnecessary. Although specific manure storage construction plan components may be waived, the constructed manure storage facility shall remain in compliance with section 1.31.

**1.42 Fee.** A non-refundable fee for a Manure Storage Construction Permit under this Ordinance shall be calculated as required in a fee schedule set by the Land Conservation Committee.

Permit application packets can be obtained from the Door County Soil and Water Conservation Department, 421 Nebraska Street, Sturgeon Bay or by calling (920) 746-2214.

**1.43 Construction Requirements.**

(1) **MANURE STORAGE CONSTRUCTION PLAN REQUIREMENTS.** Each application for a Manure Storage Construction Permit under this section shall include a manure storage construction plan. The exception is any manure storage facility closure, which shall only follow the requirements of sub. (2). The plan shall meet or exceed the minimum established limits and specific criteria within USDA-NRCS Technical Standard for Waste Storage Facility (313) and Pond Sealing or Lining Compacted Soil Treatment (520), Geomembrane or Geosynthetic Clay Liner (521), and Concrete (522); and additional Technical Standards, including, but not limited to, Critical Area Planting (342), Fence (382), Roof Runoff Structure (558), Nutrient Management (590), and Manure Transfer (634) where they apply. The plan shall include:

(a) A general location map drawing of the manure storage facility which shall include:

1. The location of the manure storage facility in relation to buildings, homes, property lines, roads, wells, karst features, public or private drainage ditches and creeks, flowages, rivers, streams, lakes, or wetlands within one thousand (1000) feet of the proposed facility.

2. The scale of the drawing and the north arrow.

3. The date the general location map was prepared.

(b) An engineering design drawing of the manure storage facility which shall include:

1. Specific design components that shall comply with USDA-NRCS Technical Standard for Waste Storage Facility (313), and additional applicable Technical Standards.

2. A recoverable benchmark(s) including elevation(s) expressed in feet and tenths.

3. The scale of the drawing and the north arrow.

The engineering design drawing shall be drawn to a scale no smaller than one (1) inch equals one forty (40) feet.

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4. The date the engineering design drawing was prepared.

(c) A narrative of the general criteria required within USDA-NRCS Technical Standard for Waste Storage Facility (313), and additional applicable Technical Standards such as management assessment, site assessment and operation and maintenance procedures for installed practices.

(d) Any other additional information required by the Door County Soil and Water Conservation Department to protect water quality and determine compliance with this Ordinance.

**(2) MANURE STORAGE FACILITY CLOSURE PLAN REQUIREMENTS.** Closure of a manure storage facility shall occur when an operation where the facility is located ceases operations, or manure has not been added or removed from the facility for a period of 24 months. Manure storage facilities shall be closed in a manner that will prevent future contamination of groundwater and surface waters. Applications for a Manure Storage Construction Permit under this section shall include a manure storage closure plan to be submitted with the permit application. The plan shall include:

(a) A general location map drawing of the manure storage facility which shall include:

1. The location of the manure storage facility in relation to buildings, homes, property lines, roads, wells, karst features, public or private drainage ditches and creeks, flowages, rivers, streams, lakes, or wetlands within one thousand (1000) feet of the existing facility.

2. The scale of the drawing and the north arrow.

3. The date the general location map was prepared.

(b) A description of the method and specifications in transferring manure into and from the manure storage facility to ensure proper closure of transfer systems.

(c) Provisions to remove or permanently plug the manure transfer system serving the manure storage facility.

(d) Provisions to remove and properly dispose of all accumulated manure in the manure facility in compliance with USDA-NRCS Standard for Nutrient Management (590).

(e) For all earthen waste impoundments, plan requirements and provisions shall be in compliance and consistent with USDA-NRCS Technical Standard for Closure of Waste Impoundments (360).

(f) *Safety provisions.* Manure storage facility closures and conversions shall implement safety measures to ensure the protection of the public from hazardous conditions.

(g) *Use conversion option.* The manure storage facility may be converted to other uses, where as it is demonstrated the conversion will not result in a degradation of ground and/or surface waters or be a threat to public health, safety or general welfare. A detailed description of intended alternative use must be described for all manure storage facility conversions for determination if conversions will be allowed.

(h) Any other additional information required by the Door County Soil and Water Conservation Department to protect water quality and determine compliance with this Ordinance.

**1.44 Review of Application.** (1) The Door County Soil and Water Department shall receive and review all permit applications. Prior to approval or disapproval of the permit application, the applicant shall submit a copy of the proposed plan(s) to the Door County Soil and Water Department for review if appropriate. The Door County Soil and Water Department shall determine if the proposed facility meets the required standards set forth in Section 4 of this Ordinance. Within thirty (30) days after receiving the completed application and fee, the Door County Soil and Water Department shall inform the applicant in writing whether the permit application is approved or disapproved.

(2) If additional information is required, the Door County Soil and Water Department has thirty (30) days from the receipt of the additional information in which to approve or disapprove the permit application. If, in addition to the applicant's information, the Door County Soil and Water Department requires comment from an outside agency, the Door County Soil and Water Department has thirty (30) days from receipt of the comments from the referral agency.

(3) The Door County Soil and Water Department personnel may conduct a site inspection prior to approving or disapproving the application. If the Door County Soil and Water Department fails to approve or disapprove the permit application in writing within thirty (30) days of the receipt of the permit application, receipt of additional applicant information or the receipt of referral agency comments, as appropriate, the application shall be deemed approved and the applicant may proceed as if a permit had been issued.

**1.45 Permit Conditions.** All permits issued under this Ordinance shall be issued subject to the following conditions and requirements:

(1) Design, construction, and management shall be carried out in accordance with the manure storage facility or manure storage closure plan and applicable standards specified in Subchapter III of this Ordinance.

## AGRICULTURAL PERFORMANCE STANDARDS AND ANIMAL WASTE STORAGE ORDINANCE

(2) The permittee shall give two (2) working days notice to the Door County Soil and Water Conservation Department before starting any construction activity authorized by the permit.

(3) Approval in writing must be obtained from the Door County Soil and Water Conservation Department prior to any modifications to the approved manure storage facility or closure plan.

(4) The permittee and, if applicable, the contractor, shall certify in writing by signing the certification sheet that the facility was installed as planned and designed. A copy of the signed certification sheet shall be given to the Door County Soil and Water Conservation Department within thirty (30) days of completion of installation. The Door County Soil and Water Conservation Department personnel may conduct site inspection during and following construction to determine that the facility was installed as planned and designed.

(5) Activities authorized by permit must be completed within one (1) year from the date of issuance after which such permit shall be void.

**1.46 Permit Revocation.** The Door County Soil and Water Conservation Department may revoke any permit issued under this Ordinance if the holder of the permit has misrepresented any material fact in the permit application, manure storage facility or closure plans, or if the holder of the permit violates any of the conditions of the permit.

### Subchapter V – Violations and Appeals

#### 1.50 Violations.

##### (1) PENALTIES.

(a) Any person violating this ordinance shall:

1. Forfeit not less than \$10.00 nor more than \$500.00 for each offense; and;

2. Institute those remedial measures, summarily and/or within a defined time period, necessary to correct any violation.

3. Be enjoined or restrained from further violation.

4. Pay the fees, costs and disbursements incurred by County associated with prosecution of the action.

(b) Each day a violation exists or continues constitutes a separate offense.

#### 1.51 Appeals.

##### (1) GENERAL PROVISIONS.

(a) *What can be appealed.*

1. Final compliance determination made in writing by Soil and Water Conservation Department (SWCD).

2. Final permit application decisions made in writing by SWCD.

3. Final permit modification or denial decision made in writing by SWCD.

4. Final permit suspension or revocation decisions made in writing by SWCD.

(b) *Who may appeal.*

1. Person aggrieved by the decision.

2. A person is aggrieved by the decision if such adversely impacts the substantial interests of that person.

(c) *How an appeal is taken.*

1. Payment of fee for filing a Notice of Appeal.

2. Filing a Notice of Appeal with the Board of Adjustment (BOA), with a copy to SWCD.

3. Notice must identify appellant, specify the decision sought to be reviewed, and designate the factual and legal bases for the appeal.

4. Fee must be paid and Notice of Appeal filed within thirty (30) days from issuance of the decision, or an appeal is barred.

(d) *Stay.*

1. The appeal, ordinarily, stays all proceedings in furtherance of the decision appealed from.

2. The appeal does not stay all proceedings if, after the appeal is filed, SWCD certifies to the BOA that a stay would pose an imminent threat to the environment, public health or public safety.

(e) *Standard of review.*

1. Certiorari (i.e. an inquiry, based on the record, into whether the SWCD could have reasonably made the decision that it did).

2. SWCD's decisions shall be accorded due deference.

3. The standards set forth in this ordinance are controlling.

(f) *Burden of proof.*

1. The burden of proof rests with the appellant.

2. The appellant must submit evidence sufficient to support granting the appeal.

(g) *Hearings.*

1. BOA shall fix the time for and location of hearing an appeal. The hearing shall commence within forty-five (45) days of the fee being paid and Notice of Appeal being filed.

2. Process.

a. Opening Remarks by Appellant and then by SWCD. These opening remarks are intended to acquaint the BOA with the case and set out, in a general way, each side's case.

b. Appellant presents real and testimonial evidence first.

c. SWCD presents real and testimonial evidence second.

d. Appellant may offer rebuttal real and

**AGRICULTURAL PERFORMANCE STANDARDS AND ANIMAL WASTE STORAGE ORDINANCE**

testimonial evidence.

e. Closing remarks by appellant and then by SWCD. These closing remarks are intended to be a brief summation of each side's position on the contested issues and the reasons each is entitled to prevail.

f. Appellant and SWCD may cross-examine witnesses of the other side.

g. BOA may swear witnesses.

h. BOA will mark and preserve exhibits.

i. BOA may cause the proceedings to be taken by a stenographer or by a recording device. The expense thereof to be paid by the parties to the proceeding. Any record of hearing will be retained by BOA.

j. The rules of evidence should be adhered to, but do not strictly apply.

k. The hearing shall be informal in nature.

(h) *Final Determination/Judicial Review.*

1. BOA may affirm or reverse in whole or part or it may modify the decision on review.

2. Within forty-five (45) days of completion of the hearing BOA shall mail or deliver to each side its written determination stating the reasons therefore. This determination shall be a final determination.

3. Any party to the proceeding may seek judicial review thereof pursuant to and in accordance with Section 68.13 Wisconsin Statutes.

(i) *Assessment/Refund of Costs and Fees.*

1. If the Appellant prevails and at the BOA's sole discretion, the filing fee may be refunded in whole or part.

2. Otherwise, each party must pay its own costs and fees.

(j) *Screening mechanism.*

1. This mechanism is intended to protect the BOA's impartiality, to maintain BOA's appearance of fairness, and to allow BOA to hear and adjudicate appeals hereunder.

2. Because of the appearance of impartiality and actual bias are of equal importance, BOA members shall refrain from:

a. Having any direct or personal connection with a pending appeal.

b. Outside of the hearing, have discussions with or receive evidence from SWCD staff, the landowner or land user, or any other person with respect to the substance of a pending appeal. If a BOA member's impartiality can reasonably be questioned, the BOA member will have to recuse oneself from consideration of the appeal.

(Ordinance #2004-15; 08/24/04)

(Ordinance #2013-02; 01/28/13)

(Ordinance #2016-10; 05/24/16)

(Ordinance #2018-17; 09/27/18)

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ADDENDUM 1

<b>Table 1. Silurian Bedrock Maximum Liquid Manure Application Rates</b>			
<b>Soil Texture</b>	<b>2 to 3 Feet Depth (gal/ac/yr)</b>	<b>3 to 5 Feet Depth (gal/ac/wk)</b>	<b>5 to 20 Feet Depth (gal/ac/wk)</b>
Sand	6,750	6,750	13,500
Sandy Loam	13,500	13,500	27,000*
Loam	13,500	13,500	27,000*
Silt Loam	13,500	13,500	27,000*
Clay Loam	13,500	13,500	20,000*
Clay	6,750	6,750	13,500

\*It is anticipated that this rate would exceed the UW A2809 annual (crop year) application rate.



## Natural Resources Conservation Service

### CONSERVATION PRACTICE STANDARD

### NUTRIENT MANAGEMENT

Code 590

(Ac.)

#### I. DEFINITION

Managing the amount (rate), source, placement (method of application), and timing of plant nutrients and soil amendments.

#### II. PURPOSES

To [budget](#), supply, and conserve nutrients for plant production. To minimize the risk of agricultural nonpoint source pollution of surface and groundwater resources. To properly utilize manure or [organic by-products](#) as a plant nutrient source. To protect air quality by reducing odors and reactive nitrogen emissions (ammonia, inorganic oxidized forms, and organic compounds). To maintain or improve the physical, chemical, and biological condition of the soil.

#### III. CONDITIONS WHERE PRACTICE APPLIES

This standard applies to all [fields](#) where plant nutrient sources and soil amendments are applied during the course of a [rotation](#).

#### IV. CRITERIA

This section establishes requirements for planning, design parameters, acceptable management processes, and performance requirements for nutrient management plan development and implementation. Nutrient management plans shall be prepared according to all of IV. Criteria A., B., C., D., and E., as well as VI. Plans and Specifications, and VII. Operations and Maintenance.

All of the information contained in this section is required. Wisconsin Conservation Planning Technical Note WI-1 (Technical Note WI-1) is the companion document to this standard and includes criteria that are required where referenced within this section.

##### A. Criteria for Surface and Groundwater Resources

1. Nutrient Criteria for All Sites
  - a. Develop and implement an annual field-specific nutrient application plan. Account for the source, rate, timing, form, and method of application for all [major nutrients](#) consistent with this standard and nutrient application guidelines found in University of [Wisconsin-Extension \(UWEX\) Publication \(Pub.\) A2809](#), "Nutrient application guidelines for field, vegetable, and fruit crops in Wisconsin," (UWEX Pub. A2809) unless use of one of the following options are appropriate:
    - For crops not listed in UWEX Pub. A2809, use other appropriate Land Grant University recommendations.
    - For nutrient application decisions based on plant tissue analysis, the sampling and testing of plants and the resulting nutrient recommendations shall be done in accordance with University of Wisconsin recommendations. See IV.A.1.o.
    - [Adaptive Nutrient Management](#) has validated alternative nutrient management strategies that improve nutrient use efficiency. See IV.A.1.i.

Annual plan updates shall document the crops, tillage, nutrient application rates, sources, and methods actually implemented.

- b. The plan shall be based on yield goals that are attainable under average growing conditions and established using soil productivity, local climate information, multi-year [documented yields](#), and/or local research on yields for similar soils and crop management systems. Yield goals should not be higher than 15% above the previous 3-5 year average.
- c. The plan shall include a Winter Spreading Plan that is consistent with sections IV.A.2.d., VI. Plans and Specifications, and Technical Note WI-1 Part II, if manure and/or organic by-products are mechanically applied.
- d. The plan shall demonstrate that [adequate acreage](#) is available for all nutrients from manure and/or organic by-products applied to fields while maintaining compliance with the standard. If an adequate land base is NOT present the plan shall document the strategy to utilize the remaining projected volume of manure or other nutrient sources produced on the farm.
- e. Soils shall be tested a minimum of once every four years by a DATCP-certified laboratory for pH, phosphorus (P), potassium (K), and organic matter. A laboratory list is provided in Part VI of the Technical Note WI-1. Soil sampling shall be consistent with UWEX Pub. A2809, "Nutrient application guidelines for field, vegetable, and fruit crops in Wisconsin," or A2100, "Sampling Soils for Testing." For perennial fruit crops, use of soil test recommendations from UWEX Pub. A2809 is only required as the basis for fertilizer applications prior to establishment of new plantings. Subsequent nutrient recommendations should be based on plant tissue analysis results. See IV.A.1.o.
- f. Where practical, adjust soil pH to the specific range of the crop(s) grown to optimize nutrient utilization.
- g. Annual P and K nutrient recommendations may be combined into a single application that does not exceed the total nutrient recommendation for the rotation. Commercial P fertilizers shall not be applied to soils testing excessively high in P for the crop being grown with the exception below (IV.A.1.h).
- h. All the nitrogen (N), P, and K fertilizer shall be credited against crop needs, which are based on the crop to be grown and on soil test results. The exceptions are: 1. Up to 20 pounds per acre of P2O5 [starter fertilizer](#) may be applied to corn grown on soils testing excessively high, where no fertilizer is recommended. 2. To account for variability in N mineralization and manure application, when nutrients other than commercial fertilizers are used to meet 100% of the N requirement for corn, an additional 20 pounds per acre of commercial N may be applied as starter fertilizer.
- i. Available N from all sources shall not exceed the annual N requirement of non-legume crops consistent with UWEX Pub. A2809, or the annual N removal by a legume crop or a legume and companion crop. See Technical Note WI-1, Part III.B for additional nitrogen utilization planning guidance.

Where excessive rainfall has caused [crop N deficiency](#), up to 46 pounds per acre of in-season supplemental N may be applied if the need for rescue N is documented using "Guidelines for Adaptive Nutrient Management", Technical Note WI-1, Appendix 3. To justify applying more than 46 pounds per acre, two different methods must be used to document the need.
- j. First and second-year legume nitrogen credits shall be applied as described in UWEX Pub. A2809 Table 9.4 through 9.6 or through soil nitrate testing as identified in Chapter 6 of UWEX Pub. A2809.
- k. Where [gleaning or pasturing](#) occurs, verify through computations that the manure nutrients deposited within a field, do not exceed the N and P limitations of this standard.
- l. Estimates of first-year available nutrient credits for manure shall be established in accordance with one of the following methods:
  - (1) Manure samples shall be collected for three or more consecutive years, as necessary, to establish a representative baseline. After which samples should be collected once every four years. If no operational changes occur, less frequent manure testing is allowable.

- Sample all manure types separately according to UWEX Pub. A3769 “Recommended Methods of Manure Analysis.”
  - Send manure samples to a laboratory participating in the Manure Analysis Proficiency (MAP) testing program where the manure analyses shall consist of total N, total P<sub>2</sub>O<sub>5</sub>, total K<sub>2</sub>O, and dry matter content at a minimum and the results shall be interpreted according to Table 3 in UWEX Pub. A2809.
- (2) Use an average or “book” value of available nutrients. Follow Table 9.3 in UWEX Pub. A2809. See Part IV, Table 3 of the Technical Note WI-1.

*Note:* Consider analysis for ammonium-N for liquid (<4.0% dry matter) manures, which have the potential for more than 50% of the total N to be in the ammonium form.

For areas receiving manure applications in consecutive years, it is recommended that a second-year N credit be included in the nutrient management plan. Follow Chapter 9 in UWEX Pub. A2809 to determine second-year N credits.

- m. Organic by-products other than manure shall be analyzed for total N, ammonium N, total P, total K, and solids content and applied to fields in accordance with this standard and any applicable regulations including restrictions on heavy metal content, mandatory separation distances and land application rates.
- n. Manures, organic by-products, and fertilizers shall not run off the field site during or immediately after application. If the applied material ponds, runs off, infiltrates to subsurface tiles, or flows toward wells or [direct conduits to groundwater](#), implement the following activities as appropriate:
- (1) Stop application.
  - (2) Take corrective action to prevent off-site movement.
  - (3) Modify the application rate, method, depth of injection, and/or timing.
  - (4) Notify the Wisconsin Department of Natural Resources (WDNR) in the event that a spill or accidental release of any material or substance when required by the Agricultural Spill Law (s.289.11, Wis. Stats.) or the terms of a WPDES permit. Refer to “Agricultural Spills and How to Handle Them,” Pub-RR-687-2002, August 2002 and the Technical Note WI-1, Part V, for WDNR contact information.
- o. Where nutrient application decisions are based on plant tissue analysis, for crops such as cranberries or established fruits, the sampling and testing of plants and the resulting nutrient recommendations shall be done in accordance with University of Wisconsin recommendations and/or other recommendations in the references section of this standard. Also see Technical Note WI-1 Appendix 2.
2. Nutrient Application Prohibitions
- a. Nutrients shall not be spread on the following:
- (1) Surface water; [saturated soils](#); areas of active snow melt where water is flowing; [concentrated flow channels](#); or non-harvested [vegetative buffers](#), except for the establishment of perennial vegetation in the concentrated flow channels, or non-harvested vegetative buffers.
  - (2) A non-farmed wetland.
  - (3) A potable well or direct conduits to groundwater and within 50 feet of these features, unless directly deposited by gleaning or pasturing animals or applied as starter fertilizer to corn. See V.A.1.h and K.
  - (4) Within eight feet of irrigation wells, except for nutrients applied through fertigation.
  - (5) Land where vegetation is not removed mechanically or by grazing, except to provide nutrients for establishment and maintenance of a conservation practice.
  - (6) Fields exceeding [tolerable soil loss \(T\)](#). Erosion controls shall be implemented so that tolerable soil loss (T) over the crop rotation will not be exceeded on fields that receive nutrients.

- (7) Fields with *ephemeral erosion* in which mitigation practices in IV.C. 1.c. have not been implemented.
- b. Do not apply manure within areas delineated by the local Land Conservation Committee or in a *conservation plan* as *areas contributing runoff* to direct conduits to groundwater unless the manure is *substantially buried* within 24 hours of application.
- c. Application of untreated manure is prohibited; however, *treated manure* may be mechanically applied on the following areas:
- (1) Within 1000 feet of a public water supply designated as a *Community potable water well*.
  - (2) Within 100 feet of a public water supply designated as a *Non-community potable water well*.

*Note:* Commercial fertilizer and manure deposited by grazing animals may be applied consistent with this standard. Based on site conditions as related to well placement, an additional setback may be needed to protect wells from contamination.

- d. All farms mechanically applying manure and/or organic by-products must have a Winter Spreading Plan that has application areas in compliance with criteria (1) - (7) below. The balance of the crop nutrient requirement may be applied in other seasons. These criteria do not apply to manure deposited through winter gleaning or pasturing of plant residue. Winter applications shall be conducted according to Section VI.B.

**A Winter Spreading Plan identifies:**

- Quantity of manure and/or organic by-products spread during periods of frozen or snow-covered soil, or generated in 14 days, whichever is greater;
- Capacity of storage for each manure type generated;
- Capacity for stacking manure that is  $\geq 16\%$  dry matter without permanent storage. Refer to NRCS *313 Standard, Waste Storage Facility*, to locate potential stacking sites.

In addition, when frozen or snow-covered soils prevent *effective incorporation* at the time of application:

- (1) Do not apply nutrients within the *Surface Water Quality Management Area (SWQMA)*.
- (2) Do not exceed the P removal of the following growing season's crop when applying manure. Liquid manure and/or organic by-products applications are limited to 7,000 gallons per acre. All winter applications are not to exceed 60 pounds of P2O5 per acre.
- (3) Do not apply manure and/or organic by-products to fields where concentrated flow channels are present unless two or more of the following are implemented:
  - a. Contour buffer strips or contour strip cropping;
  - b. Leave all crop residue (this prohibits removal of silage or bedding) and no fall tillage;
  - c. Apply in intermittent strips on no more than 50% of the field;
  - d. Apply on no more than 25% of the field during each application waiting a minimum of 14 days between applications;
  - e. Reduce application rate to 3,500 gallons or 30 pounds of P2O5, whichever is less;
  - f. No application within 200 feet of all concentrated flow channels;
  - g. Fall tillage is on the contour and slopes are less than 6%.
- (4) Do not apply manure and/or organic by-products on slopes greater than 6%, unless the plan documents that no other accessible fields are available for winter spreading AND two or more of the following are implemented:
  - a. Contour buffer strips or contour strip cropping;
  - b. Leave all crop residue (this prohibits removal of silage or bedding) and no fall tillage;
  - c. Apply in intermittent strips on no more than 50% of the field;

- d. Apply on no more than 25% of the field during each application waiting a minimum of 14 days between applications; or
  - e. Reduce application rate to 3,500 gallons or 30 pounds of P2O5, whichever is less.
- (5) Do not apply N and P commercial fertilizer. An exception is allowed for grass pastures and on winter grains that do not fall within a prohibition area defined by IV.A.2.
- (6) Do not surface apply liquid manure and/or organic by-products during February and March on areas depicted on the 590 spreading restriction maps as areas where DNR Well Compensation funds provided replacement water supplies for wells contaminated with livestock manure or *Silurian dolomite (SD) soils*.
- (7) Do not apply manure and/or organic by-products within 300 feet of direct conduits to groundwater.

### 3. Nutrient Application Restrictions

- a. For all nutrient applications on non-frozen soil within a SWQMA use one or more of the following practices as appropriate to address water quality concerns for the site:
  - (1) Install/maintain permanent vegetative buffers (harvesting is allowed unless restricted by other laws or programs). Refer to [NRCS Field Office Technical Guide \(FOTG\)](#), Section IV, Standard 393, Filter Strip, or ATCP 48 for land located within a drainage district.
  - (2) Maintain greater than 30% crop residue or vegetative cover on the soil surface after nutrient application.
  - (3) Effective incorporation of nutrients within 72 hours of application, leaving adequate residue to meet tolerable soil loss.
  - (4) Establish a crop or [cover crop](#) prior to, at, or promptly following application.
  - (5) Apply nutrients within seven days of planting on [long term no-till](#) soil with less than 30% residue.
- b. When unincorporated liquid manure and/or organic by-products applications with ≤ 11.0% dry matter occur on non-frozen soils within a SWQMA, OR where [subsurface drainage](#) is present:
  - (1) Limit applications to 12,000 gallons per acre per application.
  - (2) No applications are allowed on saturated soils.
  - (3) No ponding is allowed at the application site.
  - (4) Visually monitor accessible tile outlets before, during, and after applications for potential discharge of manure and/or organic by-products. If a discharge is observed, implement the activities in IV.A.1.n.
  - (5) Follow VI.A.12. for subsurface drainage practices.

Sequential applications may be made to meet the desired nutrient additions consistent with this standard. Wait a minimum of 7 days between sequential applications.

### B. Criteria to Minimize Entry of Nutrients to Groundwater

- 1. To minimize N leaching to groundwater on [N restricted soils](#) which include [high permeability soils \(P\)](#), or [rock soils](#) with less than 20 inches to bedrock (R), or [wet soils](#) with less than 12 inches to [apparent water table](#) (W), use the following applicable management practices and the crop N rate guideline from UWEX Pub. A2809 or rates specified below:

**Note:** The balance of the crop N requirements may be applied the following spring or summer. The Technical Note WI-1 provides a list of N-restricted soils which have a higher potential for N leaching to groundwater in Appendix 1 and more information on [nitrification inhibitors](#) in Part III.B.2.

- a. For commercial N fertilizer applications:
  - (1) No late summer or fall applications on areas identified as having soil depth of 5 feet or less over bedrock, P, R, W soils, areas within 1,000 feet of a Community potable water well, except where needed for establishment of fall seeded crops or blended commercial fertilizer

materials are needed to meet UWEX Pub. A2809 guidelines. For these exceptions, the N application rate shall not exceed 36 pounds N per acre and all nutrients must be credited towards the requirement of the crop.

- (2) On P, R, W, and combination soils, when commercial N is applied, follow IV.A.1(h) and (i).
  - (3) On P soils, when commercial N is applied for full season crops in the spring and summer, do not exceed the UWEX Pub. A2809 crop N rate guidelines and apply one of the following management strategies:
    - A split or delayed N application to apply a majority of crop N requirement after crop establishment.
    - Use a nitrification inhibitor with ammonium forms of N.
    - Use [slow and controlled release fertilizers](#) for a majority of the crop N requirement applied near the time of planting.
- b. For late summer and fall applications of manure and/or organic by-products with > 4% dry matter:
- (1) On W soils or combination W soils, use rates that will not smother these crops and limit N rates to those specified in UWEX Pub. A2809 or 120 pounds per acre of available N, whichever is less.
  - (2) On P and R soils:
    - a. When a crop is growing, such as perennial crops, overwintering annual crops, [double crops](#), and cover crops, use rates that will not smother these crops and limit N rates to those specified in UWEX Pub. A2809 or 120 pounds per acre of available N, whichever is less.
    - b. For annual crops that will not be planted until the following spring or summer, delay application until [soil temperatures](#) are less than 50°F or October 1, whichever occurs first, and limit N rates to those specified in UWEX Pub. A2809 or 90 pounds per acre of available N, whichever is less.
- c. For applications of manure and/or organic by-products with ≤ 4.0% dry matter:
- (1) On W soils or combination W soils, reduce applications to 90 pounds per acre of available N or apply no more than 120 pounds of available N per acre and use at least one of the following practices:
    - a. Use a nitrification inhibitor.
    - b. Apply on an established cover crop, or an overwintering annual crop, or a perennial crop.
    - c. Establish a cover crop within 14 days of application.
    - d. Surface apply and do not incorporate for at least 3 days.
    - e. Delay application until October 1 or soil temperatures are less than 50°F.
  - (2) On P and R soils, delay applications until soil temperatures are less than 50°F or October 1, whichever occurs first, and use a nitrification inhibitor or surface apply and do not incorporate for at least 3 days. Application rates are limited to those in section IV.B.1.b.(2).
2. Where P enrichment of groundwater is identified as a conservation planning concern, implement practices to reduce delivery of P to groundwater.

**C. Additional Criteria to Minimize Entry of Nutrients to Surface Water**

1. Where manure, organic by-products, or fertilizers are applied:
  - a. Avoid building soil test P values, when possible, beyond the non-responsive soil test range for the most demanding crop in the rotation. For most agronomic crops in Wisconsin, the non-responsive soil test range is 30 to 50 parts per million (ppm) Bray P-1 soil test.
  - b. Establish perennial vegetative cover in all areas of concentrated flow that result in reoccurring gullies.

- c. In crop fields where ephemeral erosion is an identified problem, a minimum of one of the following runoff-reducing practices shall be implemented:
  - (1) Install/maintain contours, contour strips and/or contour buffer strips. Refer to [NRCS FOTG](#), Section IV, Standard 585, Contour Farming Standard 220, Strip Cropping, and/or Standard 332, Contour Buffer Strip.
  - (2) Install/maintain filter strips (NRCS FOTG, Section IV, Standard 393, Filter Strip) along surface waters and concentrated flow channels that empty into surface waters.
  - (3) Maintain greater than 30% crop residue or vegetative cover on the soil surface after planting.
  - (4) Establish fall cover crops.
  - (5) Reduce tillage, adjust the crop rotation, or implement other practices to control ephemeral erosion.
2. Develop a P management strategy when manure or organic by-products are applied during the crop rotation to minimize surface water quality impacts. Use either the [Phosphorus Index \(PI\)](#) in section IV.C.2.a. or Soil Test Phosphorus Management Strategy in section IV.C.2.b. on all fields within a farm or tract and follow IV.A.1.h.
  - a. PI Strategy – The planned average PI values for up to an 8-year rotation in each field shall be 6 or lower. P applications on fields with an average PI greater than 6 may be made only if additional P is needed and according to UWEX Pub. A2809. Strategies for reducing the PI, algorithms, and software for calculating the Wisconsin PI can be found at <http://wpindex.soils.wisc.edu/>.
  - b. Soil Test Phosphorus Strategy - Management strategies based on soil test phosphorus may be used. Operations using this strategy shall have a conservation plan addressing all soil erosion that is consistent with the current crops and management or use the erosion assessment tools included with the Phosphorus Index model.

Available phosphorus applications from all sources shall be based on the following soil test P values (Bray P-1):

- (1) Less than 50 ppm soil test P - nutrient application rates allowed up to the N needs of the following crop or the N removal for the following legume crop.
- (2) 50-100 ppm soil test P - P application shall not exceed the total crop P removal for crops to be grown over a maximum rotation length of 8 years.
- (3) Greater than 100 ppm soil test P - total P applications from all sources shall not exceed guidelines from UWEX Pub. A2809. If manure P applications above these guidelines are necessary due to lack of suitable application sites, P applications shall be 25% less than the cumulative annual crop removal over a maximum rotation length of 8 years.

**D. Additional Criteria to Protect Air Quality by Reducing Particulates, Odors, and Reactive Nitrogen Emissions Where Air Quality is Identified in a Conservation Plan or Nutrient Management Plan as a Resource Concern**

1. Apply one or more of the following management strategies that minimizes nutrient volatilization and particulate losses while maintaining tolerable soil erosion levels for wind and water:
  - a. Slow or controlled release fertilizers
  - b. Nitrification inhibitors
  - c. [Urease inhibitors](#)
  - d. Nutrient enhancement technologies
  - e. Immediate incorporation or injection
  - f. Stabilized nitrogen fertilizers
  - g. Residue and tillage management
  - h. No-till or strip-till
  - i. In-field and edge-of-field wind breaks

- j. NRCS Wind Erosion Prediction System (WEPS) to confirm fields meet tolerable soil loss
  - k. Other technologies that minimize the impact of these emissions
2. Do not apply poultry litter, manure, or organic by-products of similar dryness/density when there is a high probability that wind will blow the material off-site.

**E. Additional Criteria to Protect the Physical, Chemical, and Biological Condition of the Soil**

- 1. Nutrients shall be applied in a manner that does not permanently degrade the soil's structure, chemical properties, or biological condition.
- 2. To the extent practical, nutrients shall not be applied when the potential for soil compaction and/or the creation of ruts is high.

**V. CONSIDERATIONS**

The following statements are optional management considerations and are not required practices.

- A. Seed and stabilize all concentrated flow channels. Install and maintain vegetative filter strips, riparian buffers, and other buffer areas adjacent to surface water and wetlands in conjunction with other conservation practices in order to reduce the amounts of sediment and nutrients that reach surface water and/or groundwater.
- B. Use additional management practices found in the Technical Note WI-1, Part III to improve N use efficiency. Use variable-rate nitrogen, phosphorus, and potassium application rates based on site-specific variability in crop yield, soil characteristics, soil test values, and other soil productivity factors. Application rates must be consistent with recommendations found in UWEX Pub. A2809.  
  
Develop site-specific yield maps using a yield monitoring system. Use the data to further diagnose low and high yield areas, or zones, and make the necessary management changes. See Title 190, Agronomy Technical Note (TN) 190.AGR.3, Precision Nutrient Management Planning.
- C. Apply nutrients not specifically addressed by this standard (i.e., secondary and micro nutrients) based on recommendations found in UWEX Pub. A2809.
- D. To minimize N leaching on medium and fine-textured soils, avoid fall commercial N applications for crops to be seeded the following spring. If commercial N is applied in the fall, use ammonium forms of N and delay N application until soil temperatures drop below 50°F. Use of a nitrification inhibitor with fall-applied N is recommended.
- E. For liquid and slurry manure, consider using a nitrification inhibitor to limit the potential risk for N loss.
- F. Use irrigation strategies (ex. irrigation scheduling, reduced-pressure drop nozzles for center pivots, etc.) to minimize N leaching losses, improve crop water use efficiency, and not exceed intake/infiltration capacity of the soil.
- G. Consider the use of animal feeding strategies based on published nutrition research findings (National Research Council, etc.) to reduce excess P in rations when manure applications are made to cropland.
- H. Consider delaying surface applications of nutrients if precipitation capable of producing runoff is forecast within 24 hours of the time of planned application.
- I. Consider modifying the crop rotation in order to provide crop fields for the application of manure during the summer crop growing season.
- J. On fields directly adjacent to or on fields with areas of concentrated or channelized flow that drain directly to surface waters, consider the following:
  - For operations using the soil test P strategy, avoid raising soil test P levels beyond optimum. In addition, implement conservation practices that reduce delivery of nutrients.
  - For operations using the P-Index, reduce the P-Index values by applying additional conservation practices.
- K. Where residual nitrate carryover is probable, the preplant soil nitrate test is recommended to adjust N application rates for corn.
- L. To improve N use efficiency of wheat, the preplant soil nitrate test is recommended to adjust the N

application rate.

- M. Where cropland with less than 50' soil depth overlays Silurian Carbonate Bedrock, identify karst land features that are direct conduits to groundwater and use management practices to minimize N loss to groundwater. See Technical Note WI-1 for a list of soils and/or map.
- N. On Silurian dolomite (SD) soils in the spring, summer or fall and before crop planting or after crop harvest, implement at least one of the following if liquid manure is injected or surface applied:
  - 1. Complete pre-tillage prior to application
  - 2. Immediately incorporate manure after application
  - 3. Reduce application rate to 7,000 gallons per application; complete sequential applications to meet desired nutrient additions consistent with this standard. Wait a minimum of three days between sequential applications.
- O. When there is a high risk of transport of nutrients, the coordinated installation of conservation practices can be used to avoid, control, or trap manure or nutrients before they can leave the field by surface and subsurface drainage. The number of applications and application rates must also be considered to limit the transport of nutrients to tile.
- P. Incorporate nutrient applications in flood prone areas of a field in order to prevent nutrient losses to surface waters. Consider applying manure nutrients after seasonal flooding risk period(s) has passed.
- Q. Nutrient containers should be recycled in compliance with State and local guidelines or regulations.
- R. Avoid applying manure and other organic by-products upwind of residences.
- S. Use the Wisconsin NRCS recognized [Nitrogen Leaching Index](#) to evaluate N pathway loss via leaching, solution runoff, reactive N emissions for planning N reduction alternatives located on the Wisconsin NRCS website under Nutrient Management: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/wi/technical/cp/> or refer to Technical Note WI-1, Part III.B.
- T. Evaluate conditions for high risk of snow melt within ten days or less before manure nutrient application.

## VI. PLANS AND SPECIFICATIONS

- A. The minimum requirements for a nutrient management plan are specified in the previous sections of this standard and expanded in Part I of the Technical Note WI-1. The following items are required in a nutrient management plan:
  - 1. Field features identified on maps or aerial photos including:
    - a. Field location, soil survey map unit(s), field boundary, acres, field identification number, a North directional arrow if north is not oriented at the top of the page;  
Areas prohibited from receiving nutrient applications: Surface water, established concentrated flow channels with perennial cover, non-farmed wetlands, lands where established vegetation is not removed, and fields eroding at a rate exceeding tolerable soil loss (T);
    - b. Direct conduits to groundwater, such as wells, sinkholes, swallets, fractured bedrock at the surface, mine shafts, non-metallic mines, tile inlets discharging to groundwater, quarries, or depressional groundwater recharge areas over shallow fractured bedrock, and their restrictions or prohibited areas defined in IV.A.2.and IV.A.3.;
    - c. Regulated water sources including potable water wells, Community potable water wells, and Non-community potable water wells, and their restrictions or prohibition areas;
    - d. Areas prohibited from receiving nutrient applications to frozen or snow-covered soil: Slopes > 6% ; Surface Water Quality Management Areas (SWQMA); Areas where DNR Well Compensation funds provided replacement water supplies for wells contaminated with livestock manure; Silurian Dolomite soils; Additional areas identified as contributing runoff to surface or groundwater;
    - e. N-restricted soils including areas identified as having soil depth of 5 feet or less over bedrock, P, R, W soils, and areas within 1,000 feet of a Community potable water well, and listed in Appendix 1 of Technical Note WI-1;
    - f. Areas of concentrated flow that result in reoccurring gullies;

2. Each field's tolerable and calculated soil losses;
  3. Soil test reports and results of soil, plant, manure, or organic by-product sample analysis with the initial plan and upon resampling. For subsequent updates, this information should be available upon request. Tissue test reports must be provided annually to document the need for nutrient applications based on tissue analysis results;
  4. Current and planned crops and crop yields, realistic yield goals;
  5. Recommended nutrient application rates;
  6. Documentation of actual nutrient applications including the rate, form, timing, and method. Revise the plan to reflect any changes in crops, yields, tillage, management, and soil or manure analyses;
  7. For supplemental nitrogen application, documentation of weather conditions; soil conditions; crop growth stage; and photographs, soil/tissue testing, crop canopy reflectance sensing, or nitrogen management models;
  8. Guidance for implementation and maintaining records;
  9. Soil test P-ppm, P balance calculation, or P Index level where applicable;
  10. Other management activities required by regulation, program requirements, or producer goals;
  11. A narrative to explain other implementation clarifications.
  12. The location, to the maximum extent practical, of inlets, outlets, tile lines and tile depth of subsurface drainage systems in fields where nutrients are applied. To address discharges of liquid manure and/or organic by-products from the tile lines follow IV.A.1.n. See Technical Note WI-1 Part III.D. for guidance for locating tile line/subsurface drainage, preventing discharges of liquid manure or organic by-products from tile lines and emergency response actions in Technical Note WI-1.
  13. When grouping fields for nutrient application purposes, N, P, and K application rates shall match individual field recommendations as closely as possible to make implementation feasible.
- B. The Winter Spreading Plan shall be developed according to the criteria defined in the NRCS FOTG Standard 590, Nutrient Management and be consistent with Part II of Technical Note WI-1.
- The plan shall:
1. Reflect a minimum of 14 days of manure and/or organic by-products generated by the farm or all manure and/or organic by-products anticipated to be spread during frozen or snow-covered soil, whichever is greater;
  2. Document the storage capacity for each manure type generated;
  3. Document the capacity for stacking manure that is = 16% dry matter without permanent storage. Refer to NRCS 313 Standard, Waste Storage Facility, to locate potential stacking sites;
  4. Provide Winter Manure Spreading Plan Implementation Maps (as per Part II of Technical Note WI-1) that identify areas of fields that meet the restrictions for applications on frozen or snow-covered soil;
  5. Document that fields with slopes less than 6% are not accessible for winter spreading, if winter spreading on fields with slopes greater than 6%.
  6. Identify necessary runoff mitigation practices in IV.A.2.d.(3) and (4);
- C. Persons who review or approve plans for nutrient management shall be certified through any certification program acceptable to the NRCS (NRCS General Manual, Title 180, Part 409.9, NRCS TechReg) or other appropriate agencies within the state.
- D. Industrial wastes, municipal sludge and some organic by-products are regulated by the Wisconsin Department of Natural Resources (WDNR). They must be spread in accordance with a Wisconsin Pollution Discharge Elimination System (WPDES) permit as obtained from the WDNR and also in accordance with IV.A.1.m.
- E. Plans for nutrient management shall be developed in accordance with policy requirements of the NRCS General Manual Title 450 Part 401.03 and Title 190, Part 402, the contents of this standard, the procedures contained in the National Planning Procedures Handbook, and NRCS National Agronomy Manual, Section 503. Plans for Nutrient Management that are elements of a more comprehensive conservation plan or

nutrient management plan shall recognize other requirements of the plan and be compatible with the other requirements. A Comprehensive Nutrient Management Plan (CNMP) is a conservation system unique to animal feeding operations (AFO). The CNMP will be developed to address the environmental risks identified during the resource inventory of an AFO. A CNMP will require use of all the applicable criteria in this technical standard along with the additional criteria located in NRCS National Planning Procedures Handbook, Subpart B, Part 600.54.

## VII. OPERATION AND MAINTENANCE

The minimum operations and maintenance requirements for a nutrient management plan are specified in this section. The following items are required:

- A. Document the actual nutrient application including the rate, form, timing, and method of the application. Revise the plan to reflect any changes in crops, tillage, management, soils, and manure tests. Producers shall have access to the current version of the nutrient management plan.
- B. Minimize operator exposure to potentially toxic gases associated with manure, organic by-products, and chemical fertilizers, particularly in enclosed areas. Wear personal protective equipment appropriate to the material being handled.
- C. Protect commercial fertilizer from the weather, and agricultural waste storage facilities from accidental leakage or spillage. See Wisconsin administrative rules and county or local ordinances concerning regulations on siting, design, operation, and maintenance of these facilities.
- D. Temporary placement or storage of manure shall be in accordance with the criteria for temporary unconfined stacks of manure contained in [NRCS FOTG Standard 313, Waste Storage Facility](#).
- E. When cleaning equipment after nutrient application, remove and save fertilizers or wastes in an appropriate manner. If the application equipment system is flushed, use the rinse water in the following batch of nutrient mixture where possible or dispose of according to state and local regulations. Always avoid cleaning equipment near high runoff areas, ponds, lakes, streams, and other water bodies. Extreme care must be exercised to avoid contaminating potable drinking water wells.
- F. Document the methodology used to determine the nutrient application rate of equipment.
- G. Concentrated flow channels where gully erosion has/will occur shall be maintained in permanent vegetation. This does not include low velocity surface drains where channel erosion does not occur.

## VIII. FEDERAL, STATE, AND LOCAL LAWS

Users of this standard are responsible for compliance with applicable federal, state, tribal, and local laws, rules, or regulations governing nutrient management systems. This standard does not contain the text of federal, state, or local laws. Implementation of this standard may not eliminate nutrient losses that could result in a violation of law.

## IX. REFERENCES

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## X. DEFINITIONS

**Adaptive Nutrient Management** (IV.A.1.a.) - A process that utilizes on-farm research data to refine nutrient management strategies based on site specific crop production conditions. Implementation of Adaptive Nutrient Management shall use multiple years of field data collected and evaluated utilizing methods recognized by the University of Wisconsin as outlined in Technical Note WI-1, Appendix 3 "Guidelines for Adaptive Nutrient Management".

**Adequate Acreage** (IV.A.1.d.) – There is enough land described in the plan to use all the manure generated by the farm annually while maintaining compliance with this standard.

**Apparent Water Table** (IV.B.1.) - Continuous saturated zone in the soil to a depth of at least 6 feet without an unsaturated zone below it.

**Areas Contributing Runoff** (IV.A.2.b.) – Areas located up gradient from an identified feature which generate surface runoff during precipitation and/or melting periods that flows toward and eventually reaches the feature. The contribution area may be identified utilizing digital elevation models, topographic maps or infield measurement and/or observation.

**Budget** (II) - Document present and prior year's crop, estimated nutrient removal by these crops and known nutrient credits. When nutrients are applied for future crop needs in the rotation, implement a tracking process to allow adjustment of subsequent nutrient applications so that the total amount of nutrients applied to the farm or tract complies with this standard and is documented in the plan. Required as a component for all nutrient management plans.

**Community Potable Water Well** (IV.A.2.c.(1)) - Found in NR 811.02 (16) means a public water system, regulated under NR 811, which has at least 15 service connections and is used by at least 25 residents for at least 6 months per year. Any water system serving 7 or more single family homes, 10 or more mobile homes, 10 or more apartment units, 10 or more duplex living units or 10 or more condominium units shall be considered a community water system unless information is provided by the owner indicating that 25 year-round residents will not be served.

**Concentrated Flow Channel** (IV.A.2.a.(1)) - A natural channel or constructed channel that has been shaped or graded to required dimensions and established in perennial vegetation for the stable conveyance of runoff. Refer to NRCS FOTG Standard 412, Grassed Waterway, for more information on construction. This definition may include non-vegetated channels caused by ephemeral erosion. These channels include intermittent streams, drainage ditches, and drainage ends identified on the NRCS soil survey. Concentrated flow channels are often identifiable as contiguous up-gradient deflections of contour lines on the USGS 1:24,000 scale topographic map.

**Conservation Plan** (IV.A.2.b.) - A plan developed and field verified by a conservation planner to document crop management and the conservation practices used to control sheet and rill erosion to tolerable levels (T) and to provide treatment of ephemeral soil erosion. A conservation plan must be signed by the land operator and approved by the county Land Conservation Committee or their representative. A conservation plan will be needed for designating winter spreading restrictions other than those specifically listed in this standard, and when implementing the soil test P management strategy where the soil erosion assessment is not calculated with the Wisconsin Phosphorus Index model. A conservation planner must develop conservation plans using the minimum criteria found in the USDA, NRCS National Planning Procedures Handbook and the Wisconsin Field Office Technical Guide and be qualified by one of the following:

1. Meeting the minimum criteria in the NRCS General Manual, Title 180, Part 409.9(c), NRCS Certified Conservation Planner Designation.
2. Meeting the NRCS TechReg Certified Conservation Planner Option 1, 2, 3.
3. For non-NRCS funded plans meet the training and performance criteria established by the county Land Conservation Committee.

**Cover Crop** (IV.A.3.a.(4)) – Grasses, legumes, forbs or other herbaceous plants established for seasonal cover and conservation purposes. Cover crops are typically terminated prior to the production of viable seed.

**Crop N Deficiency** (IV.A.1.i.) - The condition where plant tissue concentrations of N are low enough to limit crop growth and development. Nitrogen deficiency in corn exhibits as yellowing at the tips of the oldest leaves. As deficiency progresses yellowing moves along the midrib towards the stalk and yellowing moves from the bottom leaves towards the top. In general N deficiency produces a paler green or yellow color in the oldest leaves. For more detail see: [https://www.ipni.net/ppiweb/bcrops.nsf/\\$webindex/8A1BFC4E9E01AEB0852568F1005777BC/\\$file/97-3p08.pdf](https://www.ipni.net/ppiweb/bcrops.nsf/$webindex/8A1BFC4E9E01AEB0852568F1005777BC/$file/97-3p08.pdf). Crop N deficiency is often caused by low availability of soil inorganic N which may be a product of nitrate leaching, denitrification, or slow mineralization of N from soil organic matter, manure, crop residues.

**Direct Conduits to Groundwater** (IV.A.1.n.) – Wells, excluding irrigation wells; sinkholes; swallets (a sinkhole or rock hole that intercepts a stream, diverting all or a portion of it to the groundwater); fractured bedrock at the surface, mine shafts; non-metallic mines; tile inlets discharging to groundwater, quarries, or depression groundwater recharge areas over shallow fractured bedrock. For the purpose of nutrient management planning, these features will be identified on the Nutrient Application Restriction Maps, NRCS soil survey and/or USGS 1:24,000 scale topographic map, or otherwise determined through on-site evaluation and documented in a conservation plan, nutrient management plan or other local process approved by the Land Conservation Committee.

**Documented Yields** (IV.A.1.b.) - Crop production yield records documented by field for at least two consecutive years that are used to determine phosphorus and potassium fertility recommendations. Yield record documentation may include measurements of harvested crop weight, volume, or the use of calibrated yield-monitors.

**Double Crop** (IV.B.1.a.(3)) – Two crops grown and harvested in the same harvest season. A second crop is typically planted early enough to allow for at least one month's growth.

**Effective Incorporation** (IV.A.2.d.) - Mixing with topsoil or residue, or subsurface placement of nutrients by such means as injector, disc, sweep, mold-board plow, chisel plow, or other tillage/infiltration methods. Nutrients will not run off the field or drain to subsurface tiles during application.

**Ephemeral Erosion** (IV.2.a.(7)) – Erosion which forms by the convergence of overland sheet flow and rill erosion to form shallow channels which reoccur in the same locations even after these channels are filled by tillage. The location of ephemeral erosion channels are typically determined by the macro topography of the field. Ephemeral erosion channels are characterized by a dendritic (branch shaped) pattern vs. the small parallel channel pattern formed by rill erosion (Page 10 Technical Note WI-1).

**Fields** (III) - A group or single nutrient management unit with the following conditions: similar soil type, similar cropping history, same place in rotation (i.e., second year corn fields, established alfalfa), similar nutrient requirements, and close proximity. Examples include: alternate strips in a contour strip system, pasture, variable rate nutrient application management units, and other management units where grouping facilitates implementation of the nutrient management plan.

**Gleaning or Pasturing** (IV.A.1.k.) - An area of land where animals graze or otherwise seek feed in a manner that maintains the vegetative cover over all the area and where the vegetative cover is the primary food source for the animals. Livestock shall be managed to avoid the routine concentration of animals within the same area of the field. Manure deposited near a well by grazing of livestock does not require incorporation.

**Long term No-till** (IV.A.3.a.(5)) – No tillage has occurred for a minimum of three consecutive previous years.

**Major Nutrients** (IV.A.1.a) - Nitrogen (N), phosphorus (P), and potassium (K).

**Nitrification Inhibitor** (IV.B.1.) - A compound that temporarily blocks the activity of nitrifying bacteria and limits the conversion of ammonium to nitrate. Use of a nitrification inhibitor with ammonium based fertilizers or manure has the potential to reduce nitrate loss via leaching or denitrification. Follow product label.

**Nitrogen Leaching Index** (V.S.) - A tool written in the programming language Java and developed by the USDA— Agricultural Research Service and designed for use in Wisconsin to calculate nitrogen uptake and leaching for different farming and management operations.

**Non-community Potable Water Well** (IV.A.2.c.(2)) – Public water system, regulated under NR 812, which serves at least 25 or more people for 6 months or more per year. Well users may be non-transient (same 25 people) or transient. Non-community potable wells include schools, restaurants, or churches.

**N Restricted Soils** (IV.B.1.) Are defined below and also include the area within 1000 feet draining to community potable water wells or areas identified as having soil depth of 5 feet or less over bedrock (See Technical Note WI-1).

**High Permeability Soils (P)** – Are equivalent to drained hydrologic group A meeting both of the following criteria:

1. Permeability = 6 inches/hour or more in all parts of the upper 20 inches and
2. Permeability = 0.6 inches/hour or more in all parts of the upper 40 inches.

Use the lowest permeability listed for each layer when evaluating a soil. For a multi-component map unit (complex), evaluate each component separately. If the high permeability components meet the criteria and cannot be separated, the entire map unit should be considered as high permeability.

**Wet Soils (W)** - Have an Apparent Water Table within 12 inches of the surface at any time of the year. The apparent water table is a continuous saturated zone in the soil to a depth of at least 6 feet without an unsaturated zone below it. A W soil is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions. These soils can be non-hydric, saturated, or soggy for short periods in the spring after periods of rain or flooding and usually occur in low areas of the landscape.

**Rock Soils (R)** - Have less than or equal to 20 inches to bedrock. Bedrock is a general term for the solid rock (lithic) or unconsolidated material (paralithic) that underlies the soil or is exposed at the surface. If R soils are field verified and the depth is more than 20 inches to bedrock, then the soil is not considered restricted for bedrock.

**Note (IV.A.1.I.)** - Any section labeled as a 'note' is to be considered a recommendation rather than a requirement. The note is included in the criteria section to ensure subject continuity.

**Organic By-Products (II.)** – Organic materials that are produced as a byproduct of an industrial or agricultural process which can be land applied as a source of nutrients. Examples include paunch, manure solids, food production wastes, process wastewater, and waste water treatment plant bio-solids and waste water if land applied. This definition does not include hazardous and/or inorganic industrial waste or manufactured nutrient sources. Use of the term “organic” refers to carbon-based materials and is not intended as a reference to the certification criteria of the USDA National Organic Program.

**Phosphorus Index (PI) (IV.C.2.)** - The Wisconsin Phosphorus Index (PI) is an assessment of the potential for a given field to deliver P to surface water. The PI assessment takes into account factors that contribute to P losses in runoff from a field and subsequent transport to a water body, including:

- Soil erosion as calculated using the current approved NRCS soil erosion prediction technology located in Section I of the NRCS FOTG.
- Estimated annual field rainfall and snowmelt runoff volume.
- Soil P concentrations as measured by routine soil test P (Bray P-1).
- Rate and management of P applications in the form of fertilizer, manure, or other organic material.
- Characteristics of the runoff flow pathway from the field to surface water.
- The algorithms and software for calculating the Wisconsin PI can be found at <http://wpindex.soils.wisc.edu/>.

**Rotation (III)** - The sequence of crops to be grown for up to an 8-year period as specified by the conservation plan or as part of the soil erosion assessment calculated with the Wisconsin Phosphorus Index model.

**Saturated Soils (IV.A.2.a.(1))** - Soils where all pore spaces are occupied by water and where any additional inputs of water or liquid wastes cannot infiltrate into the soil.

**Silurian Dolomite (SD) Soils (IV.A.2.d.(6))** - Areas where Silurian dolomite bedrock is present within 60 inches of the surface. The location of Silurian dolomite limestone is determined by maps created by the Wisconsin Geologic and Natural History Survey. Depth to bedrock assessment is based on the most current Natural Resources Conservation Service soil survey map unit interpretations.

**Slow and Controlled Release Fertilizer (IV.B.1.b.(2))** – Fertilizer materials that have been coated with a material (eg. polymers, sulfur) that prevents the nutrients from being immediately available. Instead the nutrients become slowly available over time.

**Soil Temperature (IV.B.1.a.(3))** – The soil temperature can be documented with soil temperature at at least 4” depth, or by a 5-day average maximum daily air temperature =55°F, or 5-day average minimum daily air temperature =40°F.

**Starter Fertilizer (IV.A.1.h.)** – Fertilizer applied at the time of planting and placed with or in a band in close proximity to the seed.

**Substantially Buried (IV.A.2.b.)** – Mixing the manure or process wastewater with surface soil so that at least 80% of applied manure or process wastewater is covered with soil and the application rate is controlled to ensure that applied material stays in place and does not run off. Incorporation includes standard agricultural practices such as tillage or other practices that are the equivalent to providing 80% soil coverage.

**Subsurface Drainage (IV.A.3.b.)** – A conduit installed beneath the soil surface to collect and/or convey excess water. Tile drainage is an example of subsurface drainage. For the purposes of this standard, subsurface drainage does not include structures that divert surface water from ponding or running off a field.

**Surface Water Quality Management Areas (SWQMA) (IV.A.2.d.(1))** - For the purposes of nutrient management planning, Surface Water Quality Management Areas are defined as follows:

1. The area within 1,000 feet from the ordinary high-water mark of navigable waters that consist of a lake, pond or flowage, except that, for a navigable water that is a glacial pothole lake, “surface water quality management area” means the area within 1,000 feet from the high-water mark of the lake.

2. The area within 300 feet from the ordinary high-water mark of navigable waters that consists of a river or stream that is defined as:
  - Perennial streams (continuous flow) identified on the NRCS soil survey and/or USGS 1:24,000 scale topographic map as solid lines,
  - Otherwise determined through an on-site evaluation and documented in an approved conservation plan or nutrient management plan. Areas within the SWQMA that do not drain to the water body are excluded from this definition.

Areas within the SWQMA that do not drain to the water body are excluded from this definition.

**Tolerable Soil Loss (T)** (IV.A.2.a.(6)) - For sheet and rill erosion. T-value means the maximum rate of soil erosion established for each soil type that will permit crop productivity to be sustained economically and indefinitely. Erosion calculations shall be based on current approved erosion prediction technology found in NRCS FOTG Section I or the soil loss assessment calculated using the Phosphorous Index Model. Tolerable soil erosion rates shall be determined using the RUSLE2 Related Attributes Report located in Section 2, FOTG, Soil Report.

**Treated Manure** (IV.A.2.c.) – Manure and/or manure constituents that HAVE been subjected to treatment or processing that has the documented effect of substantially eliminating pathogens. Treatment or processing examples include thermophilic anaerobic digestion, high temperature composting of manure solids or manipulation of pH.

**Urease Inhibitor** (IV.D.1.) - A compound that prevents the hydrolysis of urea by blocking the urease enzyme. Use of a urease inhibitor will reduce ammonia volatilization losses from surface applied urea.

**Vegetative Buffer** (IV.A.2.a.(1)) - A strip or area of perennial herbaceous vegetation situated between cropland, grazing land, or disturbed land (including forest land) and environmentally sensitive areas (as defined in NRCS Technical Standard 393, Filter Strip).

specified in University of Wisconsin-Extension Publication A2809, "Soil Test Recommendations for Field, Vegetable and Fruit Crops."

2. Use the phosphorus index method specified in NRCS Standard 590.

(b) If a permittee applies manure or process wastewater on fields with soil test levels greater than 100 ppm, the permittee shall comply with the requirements in both subd. 1. and 2.:

1. For fields with soil test phosphorus levels between 100 ppm and 200 ppm, the permittee shall calculate the planned average phosphorus index value for the crop rotation or for the next 4-year period, whichever time period is less. If the calculated average phosphorus index value is greater than 6, manure and process wastewater applications to that field are prohibited. If the calculated phosphorus index value is 6 or less, applications are allowed provided that the cumulative application of phosphorus from manure and process wastewater does not exceed 50% of the cumulative annual crop phosphorus removal over the rotation or the next 4-year period, whichever is less.

2. For fields with soil test phosphorus levels of 200 ppm and greater, applications of phosphorus from manure and process wastewater are prohibited unless the permittee receives department approval. The department may only approve the application if all of the following requirements are met:

a. The permittee can demonstrate that additional applications of manure or process wastewater will not significantly increase phosphorus delivery to surface waters or wetlands.

b. The permittee calculates the planned average phosphorus index value for the rotation or the next 4-year period, whichever is less and the planned average phosphorus index value is 6 or less.

c. The cumulative application of phosphorus from manure and process wastewater does not exceed 50% of the cumulative annual crop phosphorus removal over the rotation or the following 4-year period, whichever is less.

**Note:** Strategies for assessing and reducing phosphorus index (PI) values, algorithms, and software for calculating the Wisconsin PI can be found at <http://wpiindex.soils.wisc.edu/>.

**Note:** A permittee that complies with the requirements of this section and its WPDES permit also addresses delivery of nitrogen to waters of the state.

**Note:** Also see s. NR 217.04 (1) (a) 5.

**(6) SOLID MANURE WINTER RESTRICTIONS.** The restrictions in this subsection apply to the land application of solid manure on frozen or snow covered ground.

(a) *Frozen ground-solid manure.* Unless prohibited under par. (c), solid manure may be surface applied on frozen ground if the manure is applied in compliance with the restrictions in Table 4 or otherwise immediately incorporated.

(b) *Snow covered ground-solid manure.* Unless prohibited under par. (c), solid manure may only be land applied to snow covered ground in accordance with the following:

1. If less than one inch of snow is present on the area where manure is to be land applied, the permittee may surface apply or immediately incorporate the solid manure.

**Note:** If there is less than one inch of snow on the ground and the ground is frozen, pursuant to par. (a), Table 4 restrictions must be followed when surface applying solid manure.

2. If one to 4 inches of snow is present on the area where manure is to be land applied, the permittee shall surface apply the manure in compliance with restrictions in Table 4 or otherwise immediately incorporate the solid manure.

3. If more than 4 inches of snow is present on the area where manure is to be land applied, the permittee shall surface apply the solid manure in compliance with the restrictions in Table 4. Incorporation of solid manure is prohibited.

**Note:** It is assumed that proper incorporation of solid manure is not achievable if more than 4 inches of snow is present at the time of application.

(c) *High-risk runoff period.* 1. Beginning January 1, 2008, solid manure may not be surface applied from February 1 through March 31 if any of the following conditions exist on the area of the field where the manure is to be applied:

a. Snow is present to a depth of one inch or greater.

b. The ground is frozen.

(d) To meet the requirements of par. (c), a permittee may choose to stack solid manure generated at a production area location in accordance with s. NR 243.141 (1) rather than use a storage facility that meets the design requirements in s. NR 243.15.

**TABLE 4**  
**Restrictions for Surface Applying Solid Manure on Frozen and Snow Covered Ground**

Criteria	Restrictions for fields With 0-6% slopes	Restrictions for fields with slopes > 6% and up to 9%	Restrictions for fields with slopes greater than 9%
Required fall tillage practice prior to application	Chisel or moldboard plow, no-till or a department approved equivalent <sup>A</sup>	Chisel or moldboard plow, no-till or department approved equivalent <sup>A</sup>	Not allowed
Minimum % solids allowed	12%	> 20%	Not allowed
Application rate (cumulative per acre)	Not to exceed 60 lbs. P <sub>2</sub> O <sub>5</sub> per winter season, the following growing season's crop P <sub>2</sub> O <sub>5</sub> budget taking into account nutrients already applied, or phosphorus application restrictions specified in a department approved nutrient management plan, whichever is less	Not to exceed 60 lbs. P <sub>2</sub> O <sub>5</sub> per winter season, the following growing season's crop P <sub>2</sub> O <sub>5</sub> budget taking into account nutrients already applied, or phosphorus application restrictions specified in a department approved nutrient management plan, whichever is less	Not allowed
Setbacks from surface waters	No application allowed within SWQMA	No application allowed within 2.0 x SWQMA	Not allowed
Setbacks from downslope areas of channelized flow, vegetated buffers, and wetlands	200 feet	400 feet	Not allowed
Setbacks from direct conduits to groundwater	300 feet	600 feet	Not allowed

<sup>A</sup> All tillage and farming practices shall be conducted in accordance with the following requirements; 0-2% slope = no contouring required, >2-6% slope = tillage and practices conducted along the general contour, >6% slope = tillage and farming practices conducted along the contour. The department may approve alternative tillage practices on a case-by-case basis in situations where conducting practices along the contour is not possible. Allowances for application on no-till fields only apply to fields where no-till practices have been in place for a minimum of 3 years.

**(7) LIQUID MANURE WINTER RESTRICTIONS.** The following additional restrictions in this subsection apply to the land application of liquid manure on frozen or snow covered ground:

(a) *Frozen ground-liquid manure.* Surface application of liquid manure on frozen ground is prohibited, except for an emergency situation under par. (d) or if allowed under par. (e). Injec-

tion or immediate incorporation of liquid manure is allowed on frozen ground, except if prohibited due to snow covered conditions under par. (b).

(b) *Snow covered ground-liquid manure.* Unless prohibited under par. (c) and subject to the frozen ground prohibition in par.

(a), liquid manure may only be land applied to snow covered ground in accordance with the following:

1. If less than one inch of snow is present on the area where liquid manure is to be applied, surface application, injection or immediate incorporation of liquid manure is allowed.

2. If there is one to 4 inches of snow present on the area where liquid manure is to be applied, surface application of liquid manure is prohibited, except for department approved emergencies under par. (d) or if allowed under par. (e). Immediate incorporation or injection is allowed on areas where there is one to 4 inches of snow.

3. If there is greater than 4 inches of snow on the area where liquid manure is to be applied, surface application and incorporation of liquid manure is prohibited, except for department approved emergencies under par. (d) or if allowed under par. (e). Injection of liquid manure is allowed on areas where there is greater than 4 inches of snow.

(c) *High-risk runoff period.* Unless there is a department approved emergency situation under par. (d), liquid manure may not be surface applied from February 1 through March 31.

(d) *Emergency applications for liquid manure.* 1. Except as provided in subd. 3., a permittee may surface apply liquid manure on frozen or snow covered ground on an emergency basis in accordance with the restrictions in Table 5 if all of the following conditions are met:

a. The manure is from a storage or containment facility that is designed and maintained in accordance with ss. NR 243.15 and 243.17 to provide 180 days of storage for the manure.

b. The application of manure is necessitated by exceedances or expected exceedances of the margin of safety level that were unavoidable due to unusual weather conditions, equipment failure or other unforeseen circumstances beyond the control of the permittee.

c. The permittee has notified the department verbally prior to the emergency application. Unless necessitated by imminent impacts to the environment or human or animal health, the permittee may not apply manure to a field on an emergency basis until the department has verbally approved the application.

d. The permittee submits a written description of the emergency application and the events leading to the emergency application to the department within 5 days of the emergency application.

2. Allowances for emergency surface applications of liquid manure do not apply to situations where a permittee has failed to properly maintain storage capacity either through improper design or management of the storage facility, including failure to properly account for the number or volume of wastestreams entering the facility, failure to empty a storage or containment facility in accordance with permit conditions prior to the onset of frozen

or snow covered ground conditions or due to an increase in animal units.

**Note:** The allowance for emergency surface applications in compliance with permit conditions is intended to avoid more significant impacts to human health and water quality associated with uncontrolled overflows of manure storage facilities. Causes of emergency surface applications could include conditions such as prolonged storm events or early onset of frozen ground conditions that preclude applications of manure prior to the onset of frozen or snow covered ground conditions provided that the operation made all other attempts to maintain storage volume before an emergency application became necessary.

3. The permittee shall conduct emergency surface applications of liquid manure in accordance with the restrictions in Table 5. The permittee may only conduct emergency surface applications on fields that the department has approved for emergency applications, in writing, as part of a nutrient management plan. The department may approve alternate fields and impose alternative restrictions, in writing and on a case-by-case basis, if fields that meet the restrictions in Table 5 are not available at the time of the emergency application, the permittee has explored all other options identified in its emergency response plan and the application results in a winter acute loss index value of 4 or less using the phosphorus index.

**Note:** The winter acute loss index value is displayed under the heading "Acute Loss Frozen Soil PI" in the cropping screen of the Snap-Plus nutrient management software program.

**Note:** Reporting requirements for emergency surface applications are contained in s. NR 243.19.

(e) *Existing source CAFOs-liquid manure exception.* Prior to January 1, 2010, if an existing source CAFO does not have 180 days of storage for liquid manure as specified in s. NR 243.15, the permittee may surface apply liquid manure on frozen or snow covered ground in accordance with the restrictions in Table 5 without satisfying the emergency criteria in par. (d). If a permittee does not have access to sites that meet the criteria in Table 5, the department may approve alternate sites and restrictions, in writing on a case-by-case basis as part of a nutrient management plan provided the application results in a winter acute loss index value of 4 or less using the phosphorus index. This allowance for existing source CAFOs to surface apply liquid manure on frozen or snow covered ground without satisfying the emergency criteria in par. (d) is not applicable after January 1, 2010.

**Note:** An existing source CAFO is defined under s. NR 243.03 (23).

(f) *Frozen liquid manure.* Liquid manure that is frozen and cannot be transferred to a manure storage facility may be surface applied on frozen or snow-covered ground in accordance with the restrictions in Table 5. Surface applications of frozen liquid manure do not require prior department approval or notification provided application sites for frozen liquid manure are identified in the approved nutrient management plan. During February and March, the permittee shall notify the department if the permittee expects to surface apply frozen liquid manure more than 5 days in any one month.

**Note:** Applications of frozen manure under par. (f) are limited to times when the operation's manure handling system is not functioning due to very cold weather.

Criteria	Restrictions for fields with 0–2% slopes	Restrictions for fields with >2–6% slopes	Restrictions for fields with slopes greater than 6%
Required fall tillage practice prior to application	Chisel or moldboard plow or department approved equivalent <sup>A</sup>	Chisel or moldboard plow or department approved equivalent <sup>A</sup>	Not allowed
Application rate (cumulative per acre)	Maximum application volume of 7,000 gallons per acre per winter season, not to exceed 60 lbs. P <sub>2</sub> O <sub>5</sub> , the following growing season's crop P <sub>2</sub> O <sub>5</sub> budget taking into account nutrients already applied or other phosphorus application restrictions specified in a department approved nutrient management plan, whichever is less	Maximum application volume of 3,500 gallons per acre per winter season, not to exceed 30 lbs. P <sub>2</sub> O <sub>5</sub> , the following growing season's crop P <sub>2</sub> O <sub>5</sub> budget taking into account nutrients already applied, or other phosphorus application restrictions specified in a department approved nutrient management plan, whichever is less	Not allowed
Setbacks from surface waters	No application allowed within SWQMA	No application allowed within SWQMA	Not allowed
Setbacks from downslope areas of channelized flow, vegetated buffers, wetlands	200 feet	200 feet	Not allowed
Setbacks from direct conduits to groundwater	300 feet	300 feet	Not allowed
<sup>A</sup> All tillage and farming practices shall be conducted along the contour in accordance with the following requirements; 0–2% slope = no contouring required, >2–6% slope = tillage and practices conducted along the general contour. The department may approve alternative tillage practices on a case-by-case basis in situations where conducting practices along the contour is not possible			

(8) IDENTIFICATION OF SITES. The permittee shall submit sites that meet or are expected to meet the criteria in Tables 4 and 5 for manure and the criteria in s. NR 214.17 (2) to (6) for process wastewater to the department for review and approval as part of its nutrient management plan. In addition, the permittee shall evaluate each field at the time of application to determine if conditions are suitable for applying manure and complying with the requirements of this section. All surface applications of manure or process wastewater on frozen or snow-covered ground shall occur on those fields that represent the lowest risk of pollutant delivery to waters of the state and where the application results in a winter acute loss index value of 4 or less using the phosphorus index.

(9) ADEQUATE STORAGE. All permittees shall have and maintain adequate storage for all manure and process wastewater generated at the operation to ensure that wastes can be properly stored and land applied in compliance with the conditions and timing restrictions of the permit, nutrient management plan and this chapter. As part of the nutrient management plan, the permittee shall provide the department with documentation that it has adequate storage and methods of maintaining adequate storage for manure and process wastewater generated at the operation. For liquid manure, adequate storage means a minimum of 180 days of storage designed and maintained in accordance with ss. NR 243.15 (3) (i) to (k) and 243.17 (3) and (4).

(10) ADDITIONAL RESTRICTIONS. The department may require the permittee to implement practices in addition to or that are more stringent than the requirements specified in this section when necessary to prevent exceedances of groundwater quality standards, prevent impairments of wetland functional values, prevent runoff of manure or process wastewater during dry weather conditions or to address previous manure or process wastewater runoff events or discharges from a site to waters of the state that occurred despite compliance with this section and the conditions of a WPDES permit. These conditions may include additional restrictions on nitrogen and phosphorus loadings or other nutrients and pollutants associated with the manure or process wastewater, injection or incorporation requirements, restrictions on winter landspreading, distribution schedules, and other management or site restrictions. The department may also consider nutrient management conditions contained in ch. ATCP 50 as well as the following site-specific factors when developing permit conditions or reviewing and approving the nutrient management plan or any proposed amendments to an approved nutrient management plan:

(a) Soil limitations such as permeability, infiltration rate, drainage class and flooding hazard.

(b) Volume and water content of the waste material.

(c) Available storage capacity and method of application.

(d) Nutrient requirements of the crop or crops to be grown on the fields utilizing the manure.

(e) The presence of subsurface drainage systems.

(f) Potential impacts to waters identified as source water protection areas.

(g) Potential impact to groundwater in areas with direct conduits to groundwater, shallow soils over bedrock, highly permeable soils and shallow depth to groundwater.

**History:** CR 05-075: cr. Register April 2007 No. 616, eff. 7-1-07; correction in (7) (c) made under s. 13.92 (4) (b) 1., Stats., Register March 2019 No. 759.

**NR 243.141 Manure stacking.** (1) STACKING TO AVOID SURFACE APPLICATIONS IN FEBRUARY AND MARCH. For solid manure with a solids content of 16% or greater, the department may approve stacking of the manure outside of a department approved manure storage facility where a permittee chooses to stack solid manure in accordance with s. NR 243.14 (6) (d). Permittees choosing to stack solid manure under s. NR 243.14 (6) (d) shall land apply all stacked manure from a site within 8 months of the date when stacking first began at the site.

(2) OTHER STACKING ALLOWANCES. For periods when the ground is not frozen or snow-covered, the department may approve stacking of solid manure with a solids content of greater than 32% outside of a department approved manure storage facility on a case-by-case basis as allowed under a WPDES permit. Factors the department shall consider when approving stacking of solid manure on a case-by-case basis include the potential for leachate or runoff from the stack causing exceedances of surface water or groundwater quality standards or impairments to wetland functional values, information submitted or proposed to be submitted by the permittee outlining leaching and runoff characteristics of the manure, and practices to be implemented by the permittee to minimize the potential for leachate or runoff from the stack such as limiting the frequency, volume of manure to be stacked and length of stacking period.

(3) STACKING CONDITIONS. All proposed stacking sites shall be reviewed and approved by the department and identified in the permittee's nutrient management plan. Stacking approvals may be rescinded based on documented impacts to waters of the state

DOOR COUNTY PUBLIC HEALTH  
DOOR COUNTY SOIL & WATER CONSERVATION DEPARTMENT

DRINKING WATER CONTAMINATION POLICY

**PURPOSE**

To outline roles for Door County Public Health and Door County Soil & Water Conservation Department (SWCD) staff when a report of well contamination is received. To ensure efficient and consistent response and avoid duplication of staff efforts. To minimize impact to human health and the environment, prevent the spread of disease, and educate the public.

**RESPONSE COORDINATION**

The individual who first receives a well contamination report (*E. coli* positive or brown water event) will immediately schedule a meeting or conference call with the Public Health Officer, SWCD County Conservationist, and Wisconsin Department of Natural Resources Water Supply Specialist (WDNR). The meeting will establish expectations for regular communications during the duration of the incident, and review available information about the well contamination and identify individuals responsible for generating a mailing list and mailing notification to residents.

**ROLE OF PUBLIC HEALTH PERSONNEL**

Inform SWCD and WDNR of all complaints of “brown water events” (dark, cloudy water with manure odor) or confirmed *E. coli* positive contamination in a drinking water well. Where microbial source tracking or other available data identifies human waste as the source of contamination, notify the Land Use Services Department.

Using the mailing list, mail a letter to the possibly affected residences depending on the situation. Include in the letter recommendations for well testing, how to obtain a well test kit (after determining if fee exempt testing is available through the state), notification of approximate location and date incident occurred, information about nitrates, and recommendations to not drink water until tested if a change in color, taste, or odor is noted. Include WDNR contact information. Copy SWCD, WDNR, and Door County Administration.

Answer questions that involve drinking water and wells, water testing, and refer to WDNR when appropriate. Refer questions about manure incidents to SWCD.

**ROLE OF SOIL & WATER CONSERVATION DEPARTMENT PERSONNEL**

Inform Public Health and WDNR of all complaints of “brown water events” (dark, cloudy water with manure odor) or confirmed *E. coli* positive contamination in a drinking water well.

Inform Public Health and WDNR if any residence is within ½ mile of major manure spill, field runoff, or improper manure spreading over conduits to groundwater (manure incident). Notify Public Health and WDNR when staff have an indication that the manure incident will contribute to contamination of drinking water wells. This determination will be made on a case-by-case basis by SWCD using professional judgement of the nature of incident, proximity to sensitive areas, and groundwater flow direction.

If a mailing list is not generated by WDNR, provide Public Health with a mailing list of residences within a half mile radius of a manure incident (properties with observable structures on most recent air photo).

Complete investigation of potential sources of well contamination. Coordinate with other agencies as appropriate.

Provide advice to operators and/or landowners on actions needed to halt, prevent or minimize the source of the drinking water contamination. Coordinate with other departments and agencies as necessary, such as Wisconsin Department of Natural Resources spills and CAFO program staff.

Document site conditions and determine whether agricultural performance standards and prohibitions in Door County Chapter 23 are met. Complete implementation and enforcement actions where warranted.

Answer questions about the incident or source of contamination, if known. Refer questions about drinking water, wells, and water testing to Public Health.

#### ROLE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR) PERSONNEL

When notified of a well contamination report (*E. coli* positive or brown water event) or manure incident review ground water flow in affected area and discuss with Public Health and SWCD.

Contact homeowner (or tenant) of well contamination and go through a risk assessment questionnaire that includes questions to assess possible causes of the contamination.

Notify Public Health when a determination is made that it is necessary to notify neighbors in cases where no recent work has been done on the well, observed changes in land use practices in the area, and/or a brown water event. Create a mailing list of wells that may be affected and provide to Public Health for notification to residents.

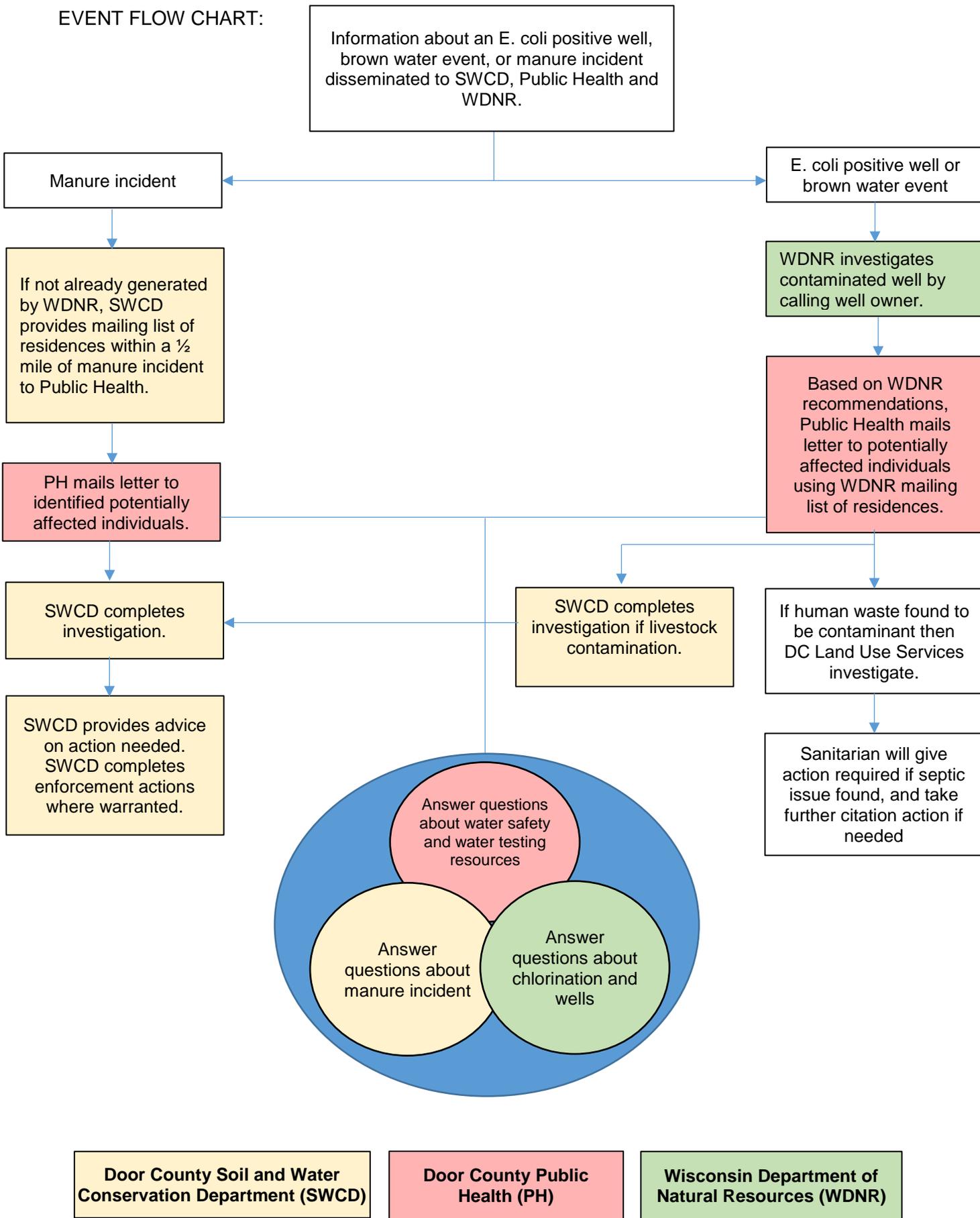
complete Microbial Source Tracking (MST) of the contaminated well when livestock contamination may be the source of fecal contamination. Coordinate investigation with SWCD when livestock contamination or other land use practices are suspected to be the cause of well contamination.

Refer homeowner to licensed professional for disinfection and resampling when there is no evidence of livestock contamination.

Provide affected individuals with other resources for maintaining a safe water supply. Provide individuals with information on funding programs.

Notify Public Health and SWCD of findings of contamination source investigation.

EVENT FLOW CHART:





## Door County Health and Human Services

County Government Center  
421 Nebraska Street  
Sturgeon Bay, WI 54235

**Public Health Division**  
**Susan Powers, RN, BSN**  
Health Officer/Manager  
(920) 746-2234  
publichealth@co.door.wi.us

Tuesday, December 3, 2019

Dear Resident,

Door County Public Health was notified of a manure spreading incident on Stone Road south of Hwy 57. Liquid manure was spread on a field prior to significant rain and snow on Saturday November 30. Manure ponded in the field, ran off into the adjacent wetlands and stream, and cleanup activities are ongoing. There are no known groundwater impacts at this time, however, because of the sensitive geology in the area, this manure incident has potential to impact the quality of the well water at your residence.

To protect your health, you should be aware of the potential for contamination of your well water. When people drink water that is contaminated with manure, they can become very sick. Bacteria and other organisms found in manure can cause many diseases. Some of the more familiar organisms include Cryptosporidium, E. coli 0157-H7, and Salmonella. Common symptoms include diarrhea, nausea, vomiting, cramps, or fever. When people bathe or shower in this contaminated water, it is less likely that they become ill. However, they can still get sick with ear and respiratory infections, skin rashes, or infections in open wounds.

Nitrates are also a concern with manure contamination. Increased levels of nitrates in drinking water can affect how blood carries oxygen and can cause methemoglobinemia (also known as blue baby syndrome). This causes skin to turn blue in color due to lack of oxygen in infants. If there is an infant in the home, we recommend that testing of nitrates in your well water is done.

When potential sources of contaminants enter the groundwater supplying your well, you may notice that the taste, odor, color or clarity of the water changes. However, your well can be contaminated even if you don't notice changes.

As a precaution, I am recommending that you test your well water for contamination since your residence is close to the manure spill area (within ½ mile), which occurred around the area of Stone Rd, south of Highway 57, in the township of Nasewaupée. **You may obtain a well water test kit from us, for fee exempt testing through the Wisconsin State Lab of Hygiene if you wish to test your well water for bacteria and nitrates.** Kits may be picked up at our office during our regular business hours: Monday-Friday 8:00-4:30.

If you have any questions regarding testing your well water, or if you would like a kit, please contact Door County Public Health 920-746-2234. If you have questions regarding the manure incident please contact Door County Soil and Water Conservation Department at 920-746-2214.

Sincerely,

Susan Powers, RN, BSN  
Health Officer/Manager



## Door County Health and Human Services

County Government Center  
421 Nebraska Street  
Sturgeon Bay, WI 54235

**Public Health Division**  
**Susan Powers, RN, BSN**  
Health Officer/Manager  
(920) 746-2234  
publichealth@co.door.wi.us

Monday, December 23, 2019

Dear Resident,

Door County Public Health was notified of a manure spreading incident at the corner of Rabbit and Kolberg Roads. Liquid manure was spread on a field on Friday, December 20 prior to warming temperatures and snowmelt. Manure ran off the field, was primarily contained in the road ditches, and cleanup activities are ongoing. Because of the sensitive geology in this area, this manure incident has potential to impact the quality of the well water at your residence.

To protect your health, you should be aware of the potential for contamination of your well water. When people drink water that is contaminated with manure, they can become very sick. Bacteria and other organisms found in manure can cause many diseases. Some of the more familiar organisms include Cryptosporidium, E. coli 0157-H7, and Salmonella. Common symptoms include diarrhea, nausea, vomiting, cramps, or fever. When people bathe or shower in this contaminated water, it is less likely that they become ill. However, they can still get sick with ear and respiratory infections, skin rashes, or infections in open wounds.

Nitrates are also a concern with manure contamination. Increased levels of nitrates in drinking water can affect how blood carries oxygen and can cause methemoglobinemia (also known as blue baby syndrome). This causes skin to turn blue in color due to lack of oxygen in infants. If there is an infant in the home, we recommend that testing of nitrates in your well water is done.

When potential sources of contaminants enter the groundwater supplying your well, you may notice that the taste, odor, color or clarity of the water changes. However, your well can be contaminated even if you don't notice changes.

As a precaution, I am recommending that you test your well water for contamination since your residence is close to the manure spill area (within ½ mile), which occurred around the area of Rabbit Rd and Kolberg Rd. in the town of Forestville. I have enclosed information regarding where water-testing kits can be obtained.

If your well water test results come back "unsafe", additional steps will need to be taken, such as disinfection of the well. Sara Fry, Private Water Supply Specialist from the Wisconsin DNR – Green Bay Office can provide additional information concerning your individual well and any recommendations for that well. She may be reached by email at [saraM.Fry@wisconsin.gov](mailto:saraM.Fry@wisconsin.gov) or by phone at 920-662-5147.

If you have any questions regarding testing your well water, please contact Door County Public Health 920-746-2234. If you have questions regarding the manure incident please contact Door County Soil and Water Conservation Department at 920-746-2214. Please note our offices are closed December 24<sup>th</sup> and December 25<sup>th</sup> for the Christmas holiday.

Sincerely,

Susan Powers, RN, BSN  
Health Officer/Manager



## Door County Emergency Management and Communications

1201 S Duluth Ave  
Sturgeon Bay, WI 54235

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FOR IMMEDIATE RELEASE

**CONTACT:**

Daniel Kane, Director  
Door County Emergency Management and Communications  
1201 S Duluth Ave  
Sturgeon Bay, WI 54235  
(920) 746-7195  
[dkane@co.door.wi.us](mailto:dkane@co.door.wi.us)

### **Door County Flooding Seminar**

*Sturgeon Bay, WI, December 20, 2019* – Door County Emergency Management and Communications will be hosting a seminar geared towards Door County property owners and local decision makers regarding the potential for high lake levels, coastal erosion, and flooding in the spring of 2020 and best practices for dealing with such events.

This seminar will feature speakers from many agencies including Door County Emergency Management and Communications, Wisconsin Department of Natural Resources (DNR), United States Army Corps of Engineers, and UW Sea Grant Institute. Collectively, these speakers will present information on the current flooding situation and forecast models as well as information related to preparedness, response, recovery, and mitigation efforts related to flooding issues. A panel style question and answer session will immediately follow the presentations where questions will be taken from the audience. In addition to the speakers noted above, a variety of personnel from the Door County Land Use Services Department, DNR, and National Oceanic Atmospheric Administration will be staffing information booths to answer questions and provide resources.

This seminar is open to the public, but space is limited and will be on a first come first serve basis. For those that are unable to attend, the seminar will be recorded in its entirety and posted online for viewing. Details on where to find that link will be posted at <http://www.co.door.wi.gov> under the Emergency Management and Communications section as well as on the Door County Emergency Management Facebook page at [www.facebook.com/DoorCountyEM](http://www.facebook.com/DoorCountyEM).

Details for the seminar are as follows:

**Date:** Thursday, January 16<sup>th</sup>, 2020

**Time:** Doors open at 5:00PM; presentations to follow from 6:00PM – 8:00PM

**Location:** Door County Community Center (ADRC), Dining Hall, 916 N 14th Ave, Sturgeon Bay, WI 54235

If you have any questions about the seminar or would like more information, please feel free to contact Daniel Kane, Door County Emergency Management and Communications, at the contact information above.

-END

## DOOR COUNTY 2020 FLOODING INFORMATIONAL SEMINAR



An informational seminar on the potential impact of high lake levels, coastal erosion, and flooding within Door County.

Thursday January 16<sup>th</sup>, 2020  
6:00PM – 8:00PM  
Doors Open at 5:00PM

Door County Community Center  
916 N. 14th Ave  
Sturgeon Bay, WI 54235

### Topics to be discussed include

- Lake level forecasting
- Flood Insurance
- Emergency Aid
- Emergency Preparedness
- Permitting
- Mitigation strategies

### Intended Audience

- Elected Officials
- General Public

### Unable to Attend?

The session will be recorded and shared online through the Emergency Management and Communications Facebook page.

### AGENDA

1. Welcome/Introductions
2. Daniel Kane; Emergency Management Director, Door County
3. Krystal Walker, Emergency Management Specialist, US Army Corps of Engineers
4. Michelle Staff; Floodplain Management Policy Coordinator & State National Flood Insurance Program Coordinator, Department of Natural Resources
5. Adam Bechle; Coastal Engineering Outreach Specialist, University of Wisconsin Sea Grant Institute
6. Question and Answer Session

### More Information

Daniel Kane  
(920) 746-7195  
[dkane@co.door.wi.us](mailto:dkane@co.door.wi.us)





**US Army Corps  
of Engineers**  
Detroit District

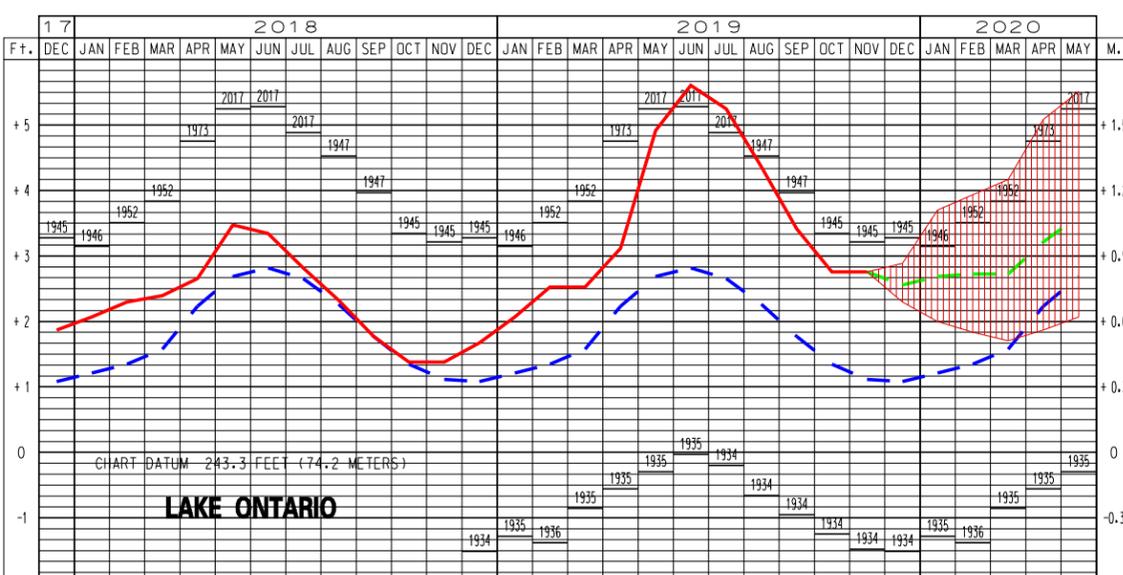
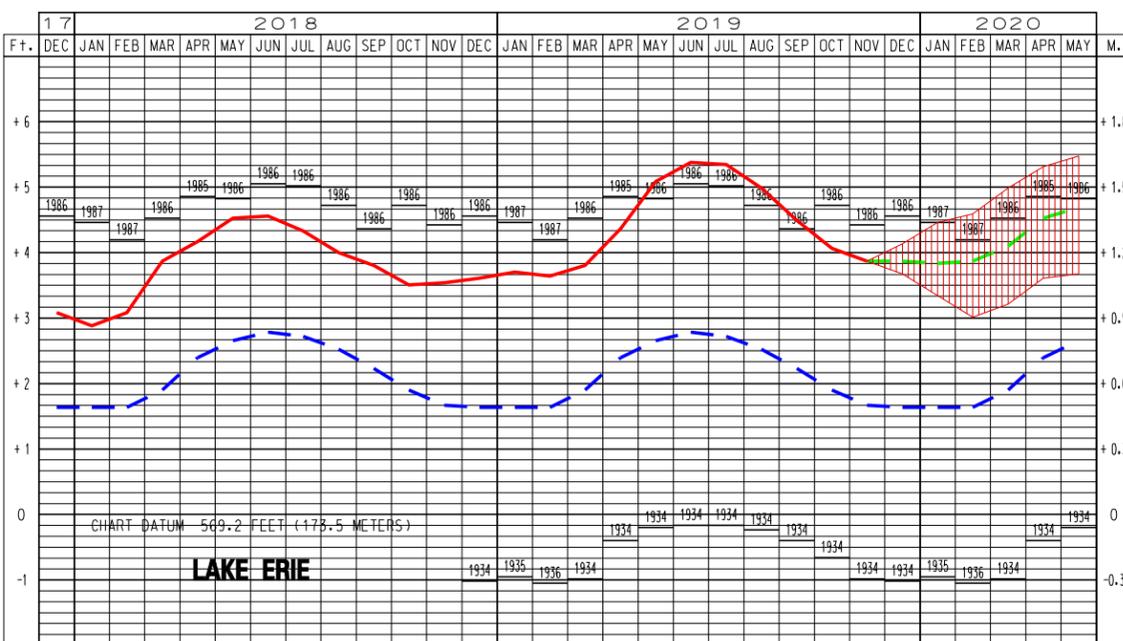
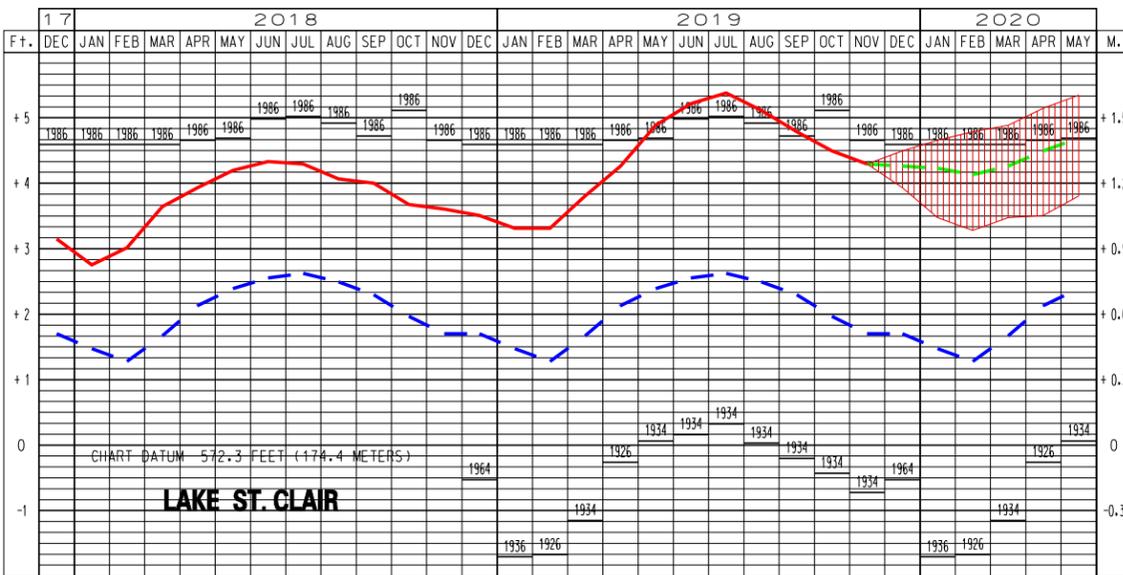
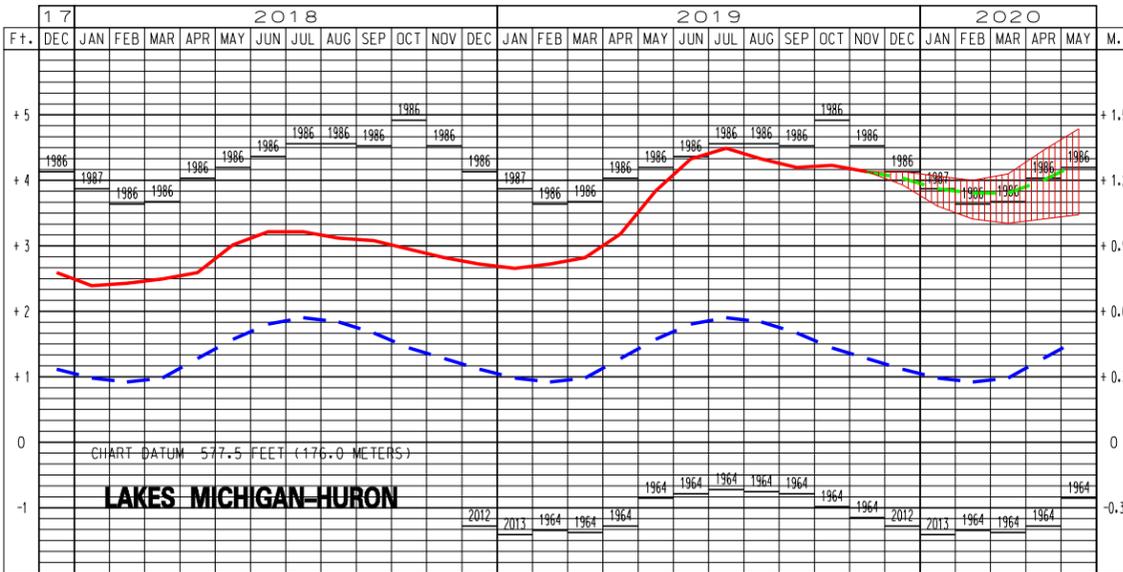
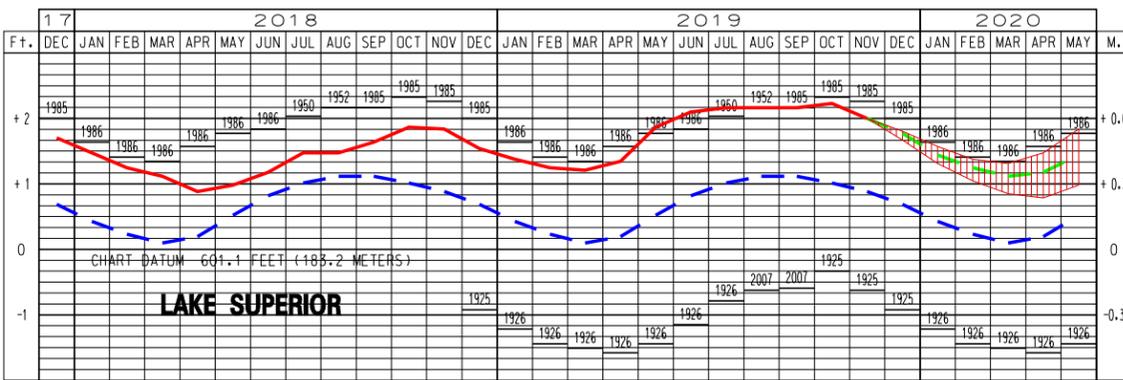


**MONTHLY BULLETIN OF  
LAKE LEVELS FOR THE  
GREAT LAKES**

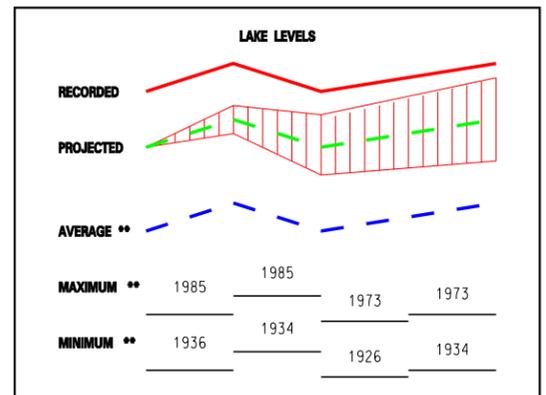
DECEMBER 2019

Monthly mean water levels for the previous year and the current year to date are shown as a solid line on the hydrographs. A projection for the next six months is given as a dashed line. This projection is based on the present condition of the lake basin and anticipated future weather. The shaded area shows a range of possible levels over the next six months dependent upon weather variations. Current and projected levels (solid and dashed lines) can be compared with the 1918–2018 average levels (dotted line) and extreme levels (shown as bars with their year of occurrence). The legend below further identifies the information on the hydrographs.

ELEVATIONS REFERENCED TO THE CHART DATUM OF EACH RESPECTIVE LAKE



**LEGEND**



The levels on the hydrographs are shown in both feet and meters above (+) or below (-) Chart Datum. Chart Datum, also known as Low Water Datum, is a reference plane on each lake to which water depth and Federal navigation improvement depths on navigation charts are referred.

All elevations and plots shown in this bulletin are referenced to International Great Lakes Datum 1985 (IGLD 1985). IGLD 1985 has its zero base at Rimouski, Quebec near the mouth of the St. Lawrence River (approximate sea level).

NOVEMBER MEAN LAKE LEVELS  
(IGLD 1985)

	Superior	Mich-Huron	St. Clair	Erie	Ontario
* 2019	Ft. 603.05	581.56	576.48	573.10	246.19
	M. 183.81	177.26	175.71	174.68	75.04
2018	Ft. 602.89	580.25	575.79	572.77	244.82
	M. 183.76	176.86	175.50	174.58	74.62
Ft. 603.31	581.96	576.84	573.65	246.65	
** MAX.	M. 183.89	177.38	175.82	174.85	75.18
Yr. 1985	1986	1986	1986	1945	
Ft. 600.43	576.28	571.46	568.24	241.96	
** MIN.	M. 183.01	175.65	174.18	173.20	73.75
Yr. 1925	1964	1934	1934	1934	
** AVG.	Ft. 601.94	578.71	573.88	570.90	244.55
	M. 183.47	176.39	174.92	174.01	74.54

\* provisional  
\*\* Average, Maximum and Minimum for period 1918–2018

Provisional record high water levels reached in 2019 will be coordinated and reflected on the Monthly Bulletin in early 2020.

## Information

Recorded monthly mean water levels in this bulletin are derived from a representative network of water level gages on each lake (see cover map). Providers of these data are the U.S. Department of Commerce, NOAA, National Ocean Service, and Integrated Science Data Management, Department of Fisheries and Oceans, Canada. The Detroit District, Corps of Engineers and Environment and Climate Change Canada derive historic and projected lake levels under the auspices of the Coordinating Committee on Great Lakes Basic Hydraulic and Hydrologic Data.

This bulletin is produced monthly as a public service. The Corps also, on a weekly basis publishes online the *Great Lakes, Connecting Channels and St. Lawrence River Water Levels and Depths*, which provides a forecast of depths in the connecting rivers between the Great Lakes and the International Section of the St. Lawrence River. This *Monthly Bulletin of the Lake Levels for the Great Lakes* may be obtained free of charge by writing to the address shown on the front cover, by calling (313) 226-6441 or emailing [hhpm@usace.army.mil](mailto:hhpm@usace.army.mil). Notices of change of address should include the name of the publication. This information is available on the internet at <http://www.lre.usace.army.mil/Missions/GreatLakesInformation.aspx>.

### Great Lakes Basin Hydrology November 2019

Preliminary estimates indicate that there was below average precipitation for all of the Great Lakes this November. Precipitation was closest to normal in the Lake Michigan-Huron basin, estimated at about 78% of its average. Totals were the lowest, as compared to average, in the Lake Ontario basin, at only 41% of average. Despite drier conditions, all basins except Lake Superior received above average water supplies. This is likely due to the influence of enhanced runoff from the wet weather in October. Lake Superior was the only basin to receive below average water supply, which can likely be attributed to colder than usual conditions. Outflows for all of the lakes continued to be above average during November.

Monthly mean water levels for November continued to be below their monthly record highs. Lakes Superior, Michigan-Huron, St. Clair and Erie either entered, or continued their seasonal decline this month, declining 3, 1, 2, and 2 inches respectively. Lake Ontario remained at approximately the same monthly mean water level as October. Seasonal declines are forecasted to continue on all of the Great Lakes this month, except for Lake Erie, which is forecasted to remain at the same level in December, before resuming to decline in January. Of note, water levels remain well above their long term average levels for the 100-year period of record (1918-2018).

PRECIPITATION (INCHES)								
BASIN	November				12-Month Comparison			
	2019	Average (1900-2017)	Diff.	% of Average	Last 12 months	Average (1900-2017)	Diff.	% of Average
Superior	1.73	2.49	-0.76	69	29.54	30.58	-1.04	97
Michigan-Huron	2.14	2.76	-0.62	78	34.61	32.52	2.09	106
Erie	1.31	2.85	-1.54	46	36.76	35.53	1.23	103
Ontario	1.28	3.13	-1.85	41	37.28	35.84	1.44	104
Great Lakes	1.81	2.74	-0.93	66	33.71	32.74	0.97	103

LAKE	November WATER SUPPLIES <sup>1</sup> (cfs)		November OUTFLOW <sup>2</sup> (cfs)	
	2019	Average (1900-2008)	2019	Average <sup>3</sup> (1900-2008)
Superior	6,000	17,000	100,000	78,000
Michigan-Huron	126,000	40,000	254,000	190,000
Erie	5,000	-2,000	257,000	201,000
Ontario	38,000	20,000	313,000	239,000

Notes: Values (excluding averages) are based on preliminary computations; cfs denotes cubic feet per second.

<sup>1</sup> Net basin supply is the net result of precipitation falling on the lake, runoff from precipitation falling on the land which flows to the lake, and evaporation from the lake. Negative net basin supply denotes evaporation exceeded runoff and precipitation. The net total supply can be found by adding the net basin supply and the outflow from the upstream lake.

<sup>2</sup> Does not include diversions.

<sup>3</sup> Lake Ontario average water supplies and average outflows are based on period of record 1900-2005

State of Wisconsin  
DEPARTMENT OF NATURAL RESOURCES  
101 S. Webster Street  
Box 7921  
Madison WI 53707-7921

Tony Evers, Governor  
Preston D. Cole, Secretary  
Telephone 608-266-2621  
Toll Free 1-888-936-7463  
TTY Access via relay - 711



November 18, 2019

► GRANT TIME PERIOD EXTENSION ◀  
Targeted Runoff Rural Construction  
Grant# TRC15000Y18; Amendment #1  
Grant Amount: \$144,872.00

Erin E. Hanson, County Conservationist  
Door County  
421 Nebraska Street  
Sturgeon Bay, WI 54235

Dear Ms. Hanson:

End date for the following project has been extended per your request:

*Fabry Creek Headwaters Project*

This amendment extends the project period end date to December 31, 2020. Please consider this letter as your amendment for the time extension and attach it to your copy of the original grant agreement. Please remember that all costs must be incurred before December 31, 2020 in order to be eligible for reimbursement.

If you have questions or concerns regarding this time extension, please contact the Nonpoint Source Program Grant Manager, Corinne Johnson, by phone at (608) 267-9385 or by email at [Corinne.Johnson@wisconsin.gov](mailto:Corinne.Johnson@wisconsin.gov) or your Regional Nonpoint Source Coordinator, Erin Carviou, by phone at (920) 662-5419 or by email at [Erin.Carviou@wisconsin.gov](mailto:Erin.Carviou@wisconsin.gov).

Sincerely,

  
for Ann Kipper, Deputy Administrator  
External Services Division

C (e-copy): Erin Carviou, Regional Nonpoint Source Coordinator, DNR Northeast Region  
Corinne Johnson, Nonpoint Source Program Grant Manager, CF/2  
Grant file

**January 2020  
SWRM COST-SHARE AGREEMENT**

**Requires LCC Approval – Land Out of Production**

Name	Acres	LWRM Grant

**Nutrient Management – Previously Approved by Ken Fisher**

Name	Acres	Estimated Cost	LWRM Grant

**Nutrient Management – Requires LCC Approval**

Name	Acres	Estimated Cost	LWRM Grant
Mary Alyce Brann	25.74	\$1,059.60	\$1,059.60

**Best Management Practices – Requires LCC Approval**

Name	Estimated Cost	LWRM Grant

## ATCP 50.12 Land and water resource management plan.

- (1) **REQUIREMENT.** A county land conservation committee shall prepare and submit, for department approval, a land and water resource management plan. The department shall approve the county plan before allocating any funds to the county under subch. [IV](#).
- (2) **PLAN CONTENTS.** A land and water resource management plan shall describe all of the following in reasonable detail:
- (a) Water quality and soil erosion conditions throughout the county, including identification of the causes of water quality impairment and pollutant sources. The plan shall include water quality assessments for each watershed in the county available from DNR, if any.
- (b) State and local regulations that the county will use to implement the county plan. The department may require the county to provide copies of relevant local regulations, as necessary, and may comment on those regulations.

**Note:** See state rules under chs. [ATCP 48](#), [ATCP 50](#), [NR 151](#), and [NR 243](#).

- (c) Water quality objectives for each watershed, including any available pollutant load reduction targets, consistent with conditions identified in par. (a). The county shall consult with DNR to determine water quality objectives and to identify pollutant load reduction targets.
- (d) Key water quality and soil erosion problem areas. The county land conservation committee shall identify key water quality problem areas in consultation with DNR.
- (e) Conservation practices needed to address key water quality and soil erosion problems.
- (f) A plan to identify priority farms in the county.

**Note:** The identification of priority farms may vary between counties, depending on local conditions, strategies, and information. A county should focus on identifying or working with the following farms, or other categories of farms that the county identifies in its plan:

- Farms subject to a DNR notice of intent under s. [281.20](#), Stats., or notice of discharge under ch. [283](#), Stats.
- Farms located in watersheds draining to waters that DNR has listed pursuant to [33 USC 1313](#). This is also known as the “303(d) list of impaired waters.”
- Farms that have large numbers of livestock, or significant problems with manure management.
- Farms making clearly excessive nutrient applications.
- Farms with clearly excessive rates of cropland erosion.

- (g) County strategies to encourage voluntary implementation of conservation practices under s. [ATCP 50.04](#). A county shall estimate the amount of information and education, cost-sharing and other financial assistance, and technical assistance needed to implement its plan.
- (h) Compliance procedures, including notice, hearing, enforcement, and appeal procedures, that will apply if the county takes action against a landowner for failure to implement conservation practices required under this chapter, ch. [NR 151](#), or related local regulations.

**Note:** See ss. [ATCP 50.04](#) to [50.08](#) and subch. VII.

- (i) The county's multi-year workplan to implement the farm conservation practices under s. [ATCP 50.04](#), and achieve compliance with performance standards under ch. [NR 151](#). The plan shall identify priorities, benchmarks for performance, and expected costs, including an estimate of costs to implement conservation practices to achieve the objectives identified in par. (c).

**Note:** The county workplan under par. (i) should be based on a reasonable assessment of available funding and resources.

- (j) The measurable annual and multi-year benchmarks the county will utilize to periodically monitor and measure its progress in meeting performance targets and achieving plan goals and objectives under the workplan in par. (i).
- (jm) How a county will meet its responsibilities for monitoring conservation compliance of landowners claiming farmland preservation tax credits.
- (k) How the county will provide information and education related to land and water conservation, including information related to farm conservation practices and cost-share funding.

- (L) How the county will coordinate its land and water conservation program with federal, state, and local agencies.

**Note:** The department and DNR will work with counties to develop more detailed guidelines and suggestions for county land and water resource management plans, but individual counties have some flexibility and discretion to propose plans that are appropriate for their local conditions.

- (3) PLAN DEVELOPMENT. A county land conservation committee, when preparing a land and water resource management plan, shall do all of the following:

**(a) Appoint and consult with a local advisory committee of interested persons.**

**Note:** A local advisory committee should reflect a broad spectrum of public interests and perspectives. For example, it could include:

- Affected farmers, businesses, and landowners.
- Agricultural, business, environmental, civic, and recreational organizations.
- Federal, state, local, and tribal officials.
- The University of Wisconsin and other educational institutions.

**(b) Assemble relevant data, including relevant land use, natural resource, water quality, and soil data.**

**(c) Consult with DNR.**

**Note:** The county land conservation committee should normally consult with the appropriate DNR staff to obtain needed planning information, effectively address resource management concerns, and ensure that its plan incorporates elements that satisfy planning requirements under section 319 of the Clean Water Act.

**(d) Assess resource conditions and identify problem areas.**

**(e) Establish and document priorities and objectives.**

**(f) Project available funding and resources.**

**(g) Establish and document a plan of action.**

**(h) Identify roles and responsibilities.**

- (4) PUBLIC NOTICE AND HEARING. Before a county land conservation committee submits a land and water resource management plan for department approval, the committee shall do all of the following:

**(a) Hold at least one public hearing on the plan.**

**(b) Make a reasonable effort to notify landowners affected by committee findings under sub. (2) (d) and (e), and give them an opportunity to present information related to the accuracy of the committee's findings.**

**Note:** The county land conservation committee should consult with the department before holding public hearings on a land and water resource management plan.

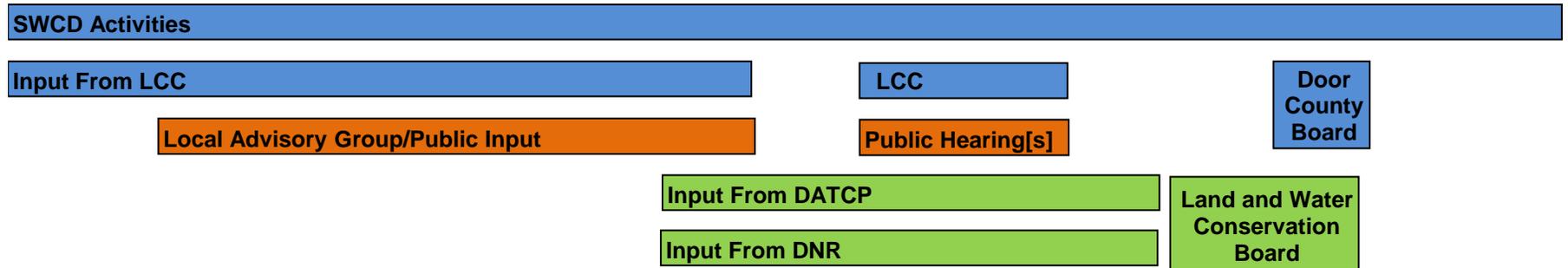
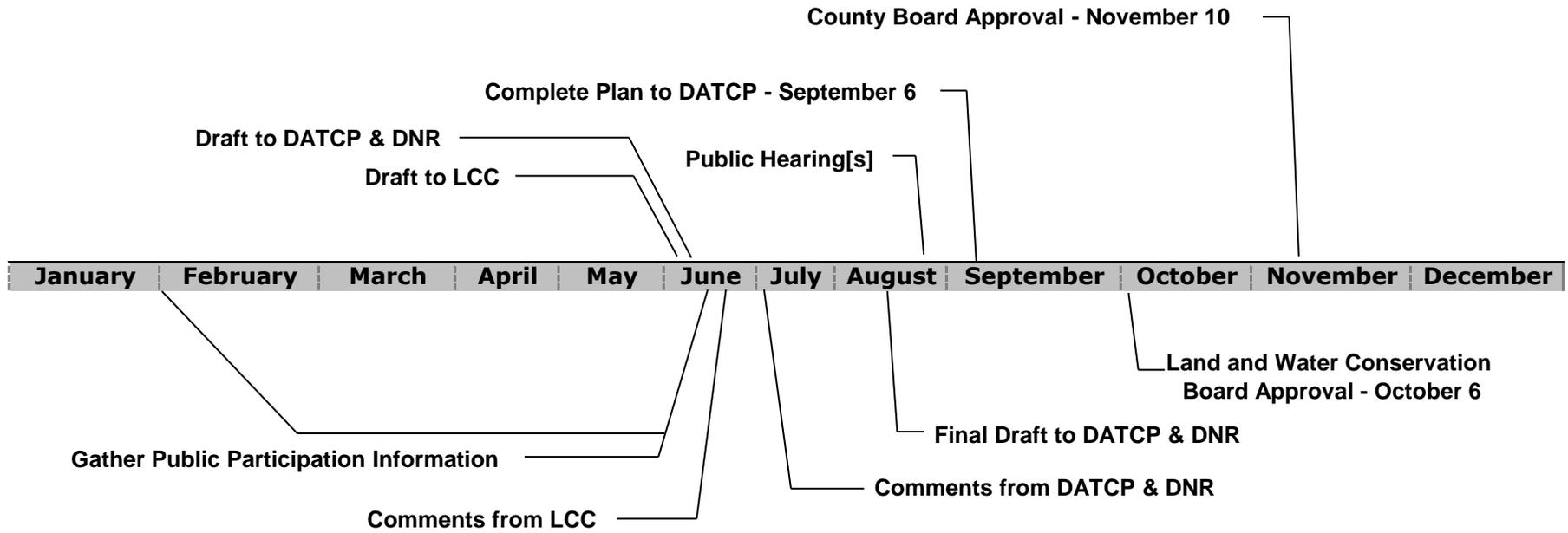
- (5) PLAN APPROVAL. The department shall review a county land and water resource management plan, and shall approve or disapprove the plan after consulting with the LWCB. The department shall review the plan based on the criteria identified in this section, s. [ATCP 50.30 \(3\)](#), and s. [92.10 \(6\)](#), Stats. The secretary shall sign the order approving or disapproving the county plan. The department shall approve a plan for a specified period of time that shall not exceed 10 years, subject to conditions that the department specifies in the order. The department's approval does not take effect if the county board does not approve the county plan.

**Note:** The county board may approve the county land and water resource management plan before or after the department approves the plan. The plan approved by the county board must be the same plan approved by the department. If the department requires changes to a plan previously approved by the county board, the department's approval does not take effect until the county board approves the modified plan.

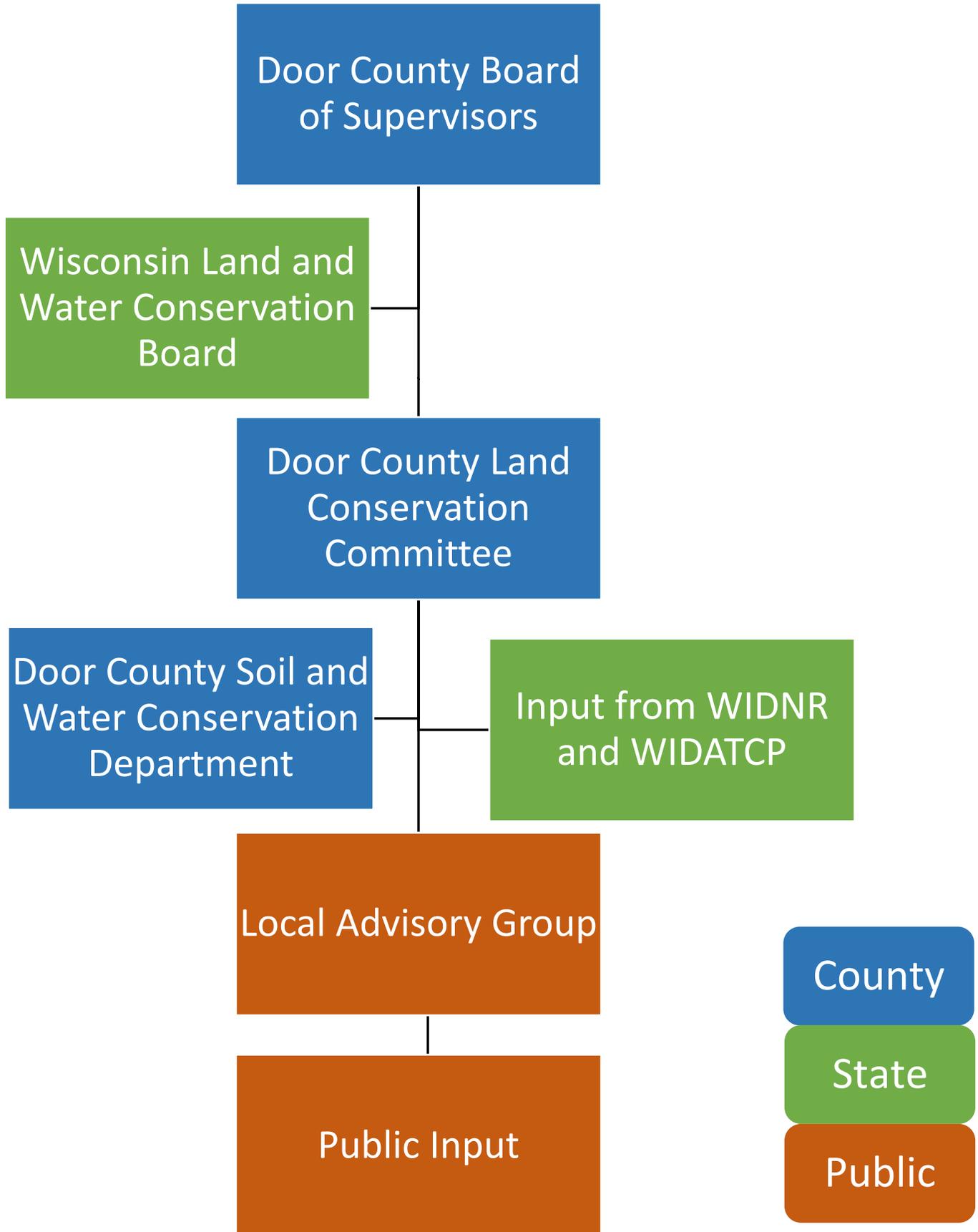
- (6) PLAN IMPLEMENTATION. The department may review county implementation of an approved county land and water resource management plan. The department may consider information obtained in its review when it makes annual grant allocations to counties under subch. [IV](#).

**History:** [CR 01-090](#): cr. [Register September 2002 No. 561](#), eff. 10-1-02; [CR 10-122](#): am. (5) [Register July 2011 No. 667](#), eff. 8-1-11; [CR 13-016](#): am. (2) (a), (c), (g), (i), (j), cr. (2) (jm) [Register February 2014 No. 698](#), eff. 5-1-14.

## Timeline for the Update of the 2020 Land and Water Resource Management Plan



# Organizations Involved in the 2020 Update of the Door County Land and Water Resource Management Plan





**DOOR COUNTY**

**Resolution No. 2020-\_\_\_\_**  
**CREATION AND APPOINTMENT OF A § ATCP 50.12(3)(A), WIS.**  
**ADM. CODE ADVISORY COMMITTEE**

**TO THE DOOR COUNTY BOARD OF SUPERVISORS:**

ROLL CALL Board Members	Aye	Nay	Exc.
AUSTAD			
BACON			
BULTMAN			
CHOMEAU			
D. ENGLEBERT			
R. ENGLEBERT			
ENIGL			
FISHER			
GUNNLAUGSSON			
HALSTEAD			
HEIM PETER			
KOCH			
KOHOUT			
LIENAU			
LUNDAHL			
NEINAS			
NORTON			
ROBILLARD			
VIRLEE			
VLIES WOTACHEK			
WAIT			

**BOARD ACTION**  
 Vote Required: Majority Vote of a Quorum

---

Motion to Approve      Adopted

1st \_\_\_\_\_ Defeated

2nd \_\_\_\_\_

Yes: \_\_\_\_\_ No: \_\_\_\_\_ Exc: \_\_\_\_\_

Reviewed by: \_\_\_\_\_, Corp. Counsel

Reviewed by: \_\_\_\_\_, Administrator

**FISCAL IMPACT:**

1        **WHEREAS**, Every county land conservation committee is to establish  
 2 and maintain a county soil and water conservation program, including a  
 3 county land and water resource management (“LWRM”) plan under §  
 4 ATCP 50.12, Wis. Adm. Code and § 92.10, Wis. Stats.; *and*

5  
 6        **WHEREAS**, The Door County Land Conservation Committee (“LCC”)  
 7 must re-write Door County’s LWRM Plan in 2020; *and*

8  
 9        **WHEREAS**, A county land conservation committee, when preparing a  
 10 LWRM plan, must appoint and consult with a local advisory committee of  
 11 interested persons (See: § ATCP 50.12(3)(a), Wis. Adm. Code); *and*

12  
 13        **WHEREAS**, The membership of the local advisory committee should  
 14 reflect a broad spectrum of public interests and perspectives.

15  
 16        **NOW, THEREFORE, BE IT RESOLVED**, That the Door County Board  
 17 of Supervisors hereby approves the creation and appointment of a § *ATCP*  
 18 *50.12(3)(a)*, *Wis. Adm. Code Door County Advisory Committee* consisting  
 19 of fourteen (14) members as set forth in *Addendum A* (attached hereto and  
 20 incorporated herein by reference as if fully set forth).

21  
 22        **BE IT FURTHER RESOLVED**, That, upon approval of the re-written  
 23 Door County LWRM Plan by the Wisconsin Land and Water Conservation  
 24 Board, the § *ATCP 50.12(3)(a)*, *Wis. Adm. Code Door County Advisory*  
 25 *Committee* will automatically cease to exist.

**SUBMITTED BY:**  
**LAND CONSERVATION COMMITTEE**

_____	Ken Fisher, Chairperson	_____	John Neinas
_____	Dan Austad	_____	Richard Virlee
_____	Vinni Chomeau	_____	Mike Vandenhouten
_____	Randy Halstead		

**Certification:**  
 I, Jill Lau, Clerk of Door County, hereby certify that the above is a true and correct copy of a resolution that was adopted on the 28th day of January, 2020 by the Door County Board of Supervisors.

\_\_\_\_\_  
 Jill Lau  
 County Clerk, Door County

**Resolution No. 2020-\_\_\_\_**  
**Addendum A**

<b>Organization</b>	<b>Representative</b>
Brey Cycle Farm / Demonstration Farms Network	Tony Brey, Co-owner
Door County Cooperative	Caleb Cornell, Agronomist
Door County Economic Development Corporation	Tom Strong, Business Development Specialist
Door County Environmental Council	Mike Barke, President
Door County Land Trust	Tom Clay, Executive Director
Door County Land Use Services	Mariah Goode, Director
Door County Visitor Bureau	Michelle Rasmusson, Director of Marketing & Sales
Olson Family Farm	Rich Olson, Owner
The Nature Conservancy	Mike Grimm, Conservation Ecologist
U.S. Natural Resource Conservation Service	Joe Johnson, District Conservationist
University of Wisconsin – Oshkosh	Greg Kleinheinz, Chair, Dept. of Engineering Technology
UW Madison Peninsular Research Station	Matt Stasiak, Emeritus Fruit & Ag. Research Specialist
Wisconsin Department of Natural Resources	Erin Carviou, Nonpoint Source Coordinator
Wisconsin Geological and Natural History Survey	David Hart, Hydrogeologist/Geophysicist



# 2020 Conference At-A-Glance

Wednesday, March 4

Thursday, March 5

Friday, March 6

<b>Pre-Conference Activities (before 11am)</b>			
8:00-11:00	Youth Speaking Contest		
8:30am-11:00am	WI Land+Water Board Meeting	6:30am-8:30am	Breakfast Buffet
9:30am-Noon	Silent Auction Item Drop-off	7:00am-6:00pm	Conference Registration
9:00am-4:30pm	Conference Registration		Silent Auction/ Exhibits/ Poster Judging Open
11:00-Noon	Lunch Buffet	<b>8:00am-9:15am</b>	<b>Breakout Sessions</b>
11:30-1:30pm	Welcome/Winning Youth Speeches/Keynote	9:15am-9:45am	Refreshment Break
1:30pm-7:00pm	Silent Auction/Exhibits/ Poster Judging Open	<b>9:45am-11:00am</b>	<b>Breakout Sessions</b>
<b>1:45pm-2:45pm</b>	<b>Breakout Sessions</b>	11am-12:45pm	Luncheon with LWCB Candidate Speeches
2:45pm-3:15pm	Refreshment Break	<b>1:15pm-2:30pm</b>	<b>Breakout Sessions</b>
<b>3:15pm-4:15pm</b>	<b>Breakout Sessions</b>	2:30pm-3:00pm	Refreshment Break
4:15pm-5:00pm	Area Assoc. Meetings	<b>3:00pm-4:15pm</b>	<b>Breakout Sessions</b>
5:00pm-7:00pm	Social	4:15pm-6:00pm	Social/Exhibits, 50/50 Raffle, End of Silent Auction and Poster Judging
<b>DINNER ON YOUR OWN</b>		6:00pm-8:15pm	<b>Dinner Banquet &amp; Awards</b>
			6:30am-8:30am
			7:00am-10:30am
			8:00am-9:00am
			8:00am-9:00am
			9:15am-10:15am
			10:15am-10:45am
			10:45am-11:45am
			Business Meeting Registration
			Business Meeting Raffle Drawing
			<b>LUNCH ON YOUR OWN</b>

## 2020 WI Land+Water Conference Breakout Sessions

Continuing Education Credits (CEUs) will be noted once approved

### Wednesday, March 4, 1:45-2:45pm

**What Follows the Year of Clean Drinking Water?** Governor Evers declared 2019 the "Year of Clean Drinking Water," yet the issue remains a priority this year, and going forward. Hear from bipartisan legislative and policy experts on how they see the clean drinking water issue playing out in Wisconsin in the coming years.

**The Ecological Landscapes of Wisconsin** is a publication developed by the Department of Natural Resources to provide the best available information to allow managers to practice landscape-scale management. Learn how this publication offers the framework for ecosystem management, assesses the ecological, social and economic conditions of the state and each ecological landscape, and offers tools to aid in management decisions at the landscape level. *Presenter: Andy Stoltman, WDNR.*

**Harvest More Buck\$ and Birds with Precision Agriculture Technology.** Precision agriculture technology is revolutionizing how farmers plan, implement, and evaluate their operations. Pheasants Forever and Quail Forever have been working since 2015 to help farmers and their advisers interpret their precision ag data and implement solutions to simultaneously improve their bottom line and enhance wildlife habitat, soil health and water quality. This presentation will strive to shift a perception that profitability and conservation are competitive. *Presenters: Scott Stipetich, Senior WI Farm Bill Biologist, Pheasants Forever and Quail Forever, and Marty Moses, WI State Coordinator, Pheasants Forever.*

**How healthy are waters in my county?** *Katie Hein, WDNR,* will discuss how counties can utilize existing data and/or set up new monitoring efforts to answer questions about the health of our waters, how they are changing, and how we can pair monitoring with action to protect or restore waters throughout the state.

**Got water? Increases in precipitation, human health effects, and tools to assist in your work.** How do increases in frequency and severity of precipitation events affect human health and what tools and resources are available for you to better address this issue? The Climate and Health Program from the Wisconsin Dept. of Health Services has been spending the past several years learning about the human health effects of climate change in Wisconsin, including the effects of flooding events. They've created a set of tools, with a focus on human health, to help Wisconsinites better prepare for and respond to these extreme precipitation events. We will also discuss how these precipitation changes could impact public health with a focus on groundwater contamination and harmful algal blooms. *Presenters: Colleen Moran MPH, MS, Climate and Health Program Manager, and Sarah Yang, PhD, Groundwater Toxicologist, WI Dept. of Health Services.*

### Wednesday, March 4, 3:15-4:15pm

**Groundwater Quality in Wisconsin: How the geologic framework, rock chemistry, and land use affects water quality in Wisconsin's aquifer systems.** Geared towards the geology novices, *Dr. John A. Luczaj, Professor of Geoscience and Water Science at UW-Green Bay,* will present an overview of Wisconsin's groundwater quality, with a focus on how the geology, aquifer chemistry, and land use variations influence the chemistry of water produced from the state's wells. Wisconsin has plentiful water resources, but variations in the geologic framework of aquifers, coupled with natural contaminants (arsenic, radium, strontium) and anthropogenic contaminants (bacteria, nitrates, etc.) make it necessary to consider all of these issues when evaluating groundwater quality.

**Planning Steps to Ensure Successful Pollinator Plantings.** The adage "If you fail to plan you plan to fail" is an unfortunate truth many have experienced when trying to establish a pollinator planting. This session will discuss the critical planning considerations needed to ensure success. Topics covered include: scouting and site preparation, selecting the right planting method for the site, pollinator friendly herbicides, cover and companion crops, matching seed mixes to soil type and target species, and maintenance activities. *Presenter: Steve Bertjens, NRCS State Biologist.*

<p><b>Let's Make Healthy Lakes – and Rivers - Together!</b> The WDNR's Healthy Waters Coordinator, <i>Pamela Toshner</i>, will share an overview of the state's Healthy Lakes initiative, including the 5 best practices promoted, technical assistance, and funding opportunities. <i>Catherine Higley, Vilas County</i>, will delve into logistics of setting up a countywide effort and showcase example projects. Forthcoming program improvements and making it easier to increase funding will also be discussed.</p>	<p><b>News You Can Use: The Wisconsin Farm Center</b>, a service of the WI Dept. of Agriculture, Trade and Consumer Protection, serves the state's farmers and agribusinesses in sustaining and growing Wisconsin's agricultural economy. Financial consultations, assistance with farm succession planning, and mediation services are just a few of the services provided at no cost to those requesting assistance. <i>Presenter: Mike Lochner, DATCP.</i></p>
<p><b>Locally Led Climate Change Initiatives.</b> Hear from two counties taking the initiative on climate change in Wisconsin. <i>Bob Micheal</i> will share how Monroe County not only passed a proactive resolution recognizing climate change while supporting the efforts of the newly created Climate Change Task Force. The task force will seek federal, state, and local assistance (technical &amp; financial) to implement their 10 goals. Then hear from <i>MaryJo Gingras</i> about Ashland County's recently approved Land and Water Resource Management Plan, which includes 25% of their workplan activities as Climate Change Adaptation Approaches and Strategies as developed by the Northern Institute of Applied Climate Science, and how they are keeping their staff, LCC, and partners up to speed in their region.</p>	

#### Thursday, March 5, 8:00-9:15am

<p><b>Technical Roundtable #1: Gully Erosion Techniques:</b> New and old ways to address gully erosion. Hosted discussion on using various technical practices to address gully erosion control, including turf reinforcement lined chutes, "cascading waterfalls," and other tried and true methods. <i>Hosts: Pete Wurzer, Drew Zelle-Environmental Specialist, DATCP.</i></p> <p><b>Civilian Conservation Corps Structures:</b> Appreciating and repairing old CCC structures for gully control. These structures have been around a long time and provide us an opportunity to look at and learn from methods used to control erosion in the past. <i>Hosts: Ryan Glassmaker, Pete Wurzer-Environmental Specialists, DATCP.</i></p> <p><b>1 Engineering Professional Development Hour.</b></p>	<p><b>Like Han Solo and Chewbacca - Taking your Partnership to Light Speed.</b> This popular breakout session is back and better than ever! Successfully navigating a conservation department through the asteroid field of today's funding shortfalls and resource concerns requires respect, collaboration, and communication (even when you speak different languages). Hear lessons learned from experienced and savvy "pilots" in this stellar session on strengthening the LCC/LCD partnership. <i>Presenters/Panel TBA.</i></p>
<p><b>Tech Bytes 2020.</b> Technology and its use in conservation is ever changing. <i>Seth Ebel (Dane County) and Jeremy Freund (Outagamie County)</i> will drop bytes of information to generate ideas and opportunities for others to adopt in applying technology to conservation. The presentation will touch on the latest adaptations of Civil 3d, LiDAR, Drones, and GIS in helping implementation of conservation.</p>	<p><b>Nutrient Management: More than balancing N, P, and K.</b> This session will explore the tools available to achieve more from nutrient management planning than balancing N, P, and K for crop production. We'll look at identifying soil health through a soil test, meeting soil loss requirements, and vegetating channels, as well as identify expectations of the NRCS 590 standard and NR151. Most importantly, it's to develop a plan that can be used by the farmer so it can be implemented to protect and improve water quality and farm profitability. The session is intended to be interactive, so come prepared to engage in a discussion about taking nutrient management planning to the next level. <i>Presenters: Dale Konkol, Door Co. SWCD, and Kirk Langfoss, Marathon Co. CPZ.</i></p>
<p><b>Nitrate Leaching.</b> Join <i>Kevin Masarik, UW-Stevens Point Groundwater Education Specialist</i>, who will discuss seasonal variability of nitrate leaching to groundwater, monitoring efforts in the central sands, and how to calculate nitrate loss.</p>	

**Thursday, March 5, 9:45-11:00am**

**Technical Roundtable #2: Perplexing Projects:** Examples of successful projects that addressed significant erosion or runoff concerns. How to think out of the “box” when using technical solutions to address resource concerns. *Presenters: Ryan Glassmaker, DATCP-Innovative methods for controlling stormwater control for lake protection; Pat Schultz, P.E., DATCP-Repairing a large single storm event gully in Chippewa County; Chad Casper, Winnebago County LWCD-Offshore breakwater structures; Dan O’Connell, Portage County LWCD-Little Plover River Project.*  
**What to do when things go wrong:** How to “keep calm and carry on” when unplanned issues arise during installation of conservation projects. How to problem solve your way through technical concerns that arise during construction projects. *Presenters: Amy Moore, P.E., NRCS; Pat Schultz, P.E., DATCP; Travis Buckley, DATCP.*  
**1 Engineering Professional Development Hour.**

**Teaching Outdoor Awareness & Discovery: T.O.A.D. Programs - Bringing Environmental Education programs to people of all ages throughout Marinette County.** Marinette County’s Land & Water Conservation Division uses the T.O.A.D. (Teaching Outdoor Awareness & Discovery) program to teach year-round environmental education topics throughout the county to a variety of audiences. They’ve reached over 92,000 people since 2001, a majority of which are schoolchildren. This presentation introduces T.O.A.D. and how they use a hands-on approach to teach others about conservation, and why they should care about the environment and our natural resources.

**What Wikipedia Can’t Tell You About Crop & Tillage Surveys.** Do you have years of crop and tillage survey data sitting on the shelf collecting dust? Do you think that data could be useful somehow but don’t know where to start? Do you wonder if there are better ways to collect cropping trend data? New to the tillage survey world and don’t know where to start? If you stay up at night pondering these questions and more, this presentation and discussion will go through 25+ years of crop and tillage survey data. Dane County has collected data annually since 1994. Recently, the county paired up with Dr. Francisco Arriaga and his graduate student to determine how the data could be used, trend analysis, and what the next evolution of the crop and tillage survey could look like. *Presenters: Curt Diehl, Dane County LWCD; Dr. Francisco Arriaga, Associate Professor, Dept. of Soil Science, UW-Madison; and Kyle Kettner, Graduate Student, Dept. of Soil Science, UW-Madison.*

**PFAS in the environment, Wisconsin’s strategy for an emerging concern.** Per- and polyfluoroalkyl substances (PFAS) are a group of human-made organic chemicals that have been used in industry and consumer products worldwide since the 1950s. PFAS are highly resistant to degradation, distributed worldwide, and have documented toxicity to animals and links to adverse health effects in humans. DNR will introduce PFAS and their uses, why they are an issue in the environment, and what Wisconsin is doing about PFAS. DNR staff will talk about implications of PFAS in wastewater, biosolids/land-spreading, development of a new water quality standard, potential fish consumption advisories and the results of a 2019 survey of PFAS compounds in surface water and fish tissue. The presentation will compare Wisconsin’s efforts with those with other states, as well as federal-level progress on regulating and controlling PFAS contamination. *Presenters: Adrian Stocks, Tim Asplund, Mike Shupryt, Meghan Williams (DNR) and Sarah Yang (DHS).*

**Agency Partnerships for Improving NR 151 Implementation.** Re-designed in 2002, our statewide nonpoint source pollution abatement program relies on multiple agencies to successfully implement the agricultural performance standards. As we strive to always improve the implementation process, we should also tell the story of all the great work we’ve done to protect water quality. This interactive session will look at the background of NR 151, share examples of successful implementation, and discuss areas for improvement. *Presenters: Mike Gilbertson, WDNR and county staff TBA.*

**Thursday, March 5, 1:15-2:30pm**

**Technical Roundtable #3: Stream Corridor Improvements:** This discussion will revolve around combining good stream bank protection and good habitat practices into creating a healthy stream corridor. *Presenters: Stacy Dehne, P.E., DATCP; Dave Russell, P.E., DATCP; Matt Albrecht-Vernon County LWCD.*

**1 Engineering Professional Development Hour.**

**Using SnapPlus for Conservation.** Find out how to build a conservation plan in the latest version of SnapPlus. Learn to make field and conservation practice maps; account for animals and their manure; track manure storage volume; build crop rotations with nutrient applications; and use reports to revise the plan. We'll have 25 computers with an incomplete sample plan so participants can jump into the program and create the rest of the plan. Discover the easier paths to planning in SnapPlus so you can help the next farm that needs it. All are welcome to attend. If we don't have enough computers, we can share, or just come and watch the presentation.

**How Did We Get Here?** This workshop will provide a light hearted but historically accurate overview of the evolution of county land conservation programs from the perspective of two "seasoned" County Conservationists, with a focus on nonpoint pollution. Why did Wisconsin abolish Soil & Water Conservation Districts in 1982? Why does that make us unique nationally? What have been key program developments since? Who were the key players? What have been some of our biggest challenges, accomplishments and setbacks? As we plan to address our current and future program challenges, attendees will gain a better appreciation of our rich history, and the lessons learned along the way. *Presenters: Perry Lindquist, Waukesha Co., and Dan Masterpole, Chippewa Co.*

**Who's Responsible for Stormwater BMP Maintenance and Inspection?** When does the sediment in that detention basin need to be removed? Who makes that call? Who pays for the work? Who ensures it is right? Are they even working like designed? Many counties and local governments are asking these same questions. Washington County will share the results from a round of stormwater BMP inspections and their plan on sites that are in need of maintenance as well as a look at their tracking database and inspection forms. Waukesha County requires the BMP owner to properly inspect, report and document maintenance; they will share their ordinance language and experience and how this ties into their MS4 program. DNR staff will provide an overview of the permit requirements related to storm water practice maintenance and summarize the different approaches that municipalities are using to deal with storm water practice maintenance. *Presenters: Paul Sebo, Washington County; Alan Barrows, Waukesha County; Peter Wood or Amy Minser, DNR.*

**Communication Breakdown.** A common complaint and challenge in the workforce today is communication. It is never right; not enough, too much, wrong form. This interactive presentation will demonstrate how communication often goes wrong, but provides the answers for how to be effective regardless of your communication preferences. *Presenter: Brad Gingras, Superior Strategies.*

**Thursday, March 5, 3:00-4:15pm**

**Technical Roundtable #4: Manure Composting Basics:** How to engage with the landowner and plan a successful manure composting project. This session will teach the basics on planning a composting project. *Presenter: Travis Buckley, DATCP.*

**Soils Investigations and Testing for Manure Storage:** Conducting the proper soils investigations, soil testing requirements, and developing the geologic profile for the current Manure Storage Standard. *Presenter: Amy Moore, P.E., NRCS.*

**1 Engineering Professional Development Hour.**

**Celebrating Women in Conservation.** The last session between you and Happy Hour, so why not celebrate? Join us for an open discussion to celebrate women working in conservation, the great strides that have been made, and what the future holds. *The session will be led by Angela Biggs, who will share her journey, which began in northeast Iowa and has taken her cross-country, including work in Hawaii and the Pacific Islands, to becoming Wisconsin's NRCS State Conservationist.* This interactive session will include small group work where we will discuss the challenges that women in conservation face, the opportunities available to women in the field, and the changes we'd like to see for future generations of female leaders. The focus will be on building relationships, understanding the value women bring to the table, and learning from each other to strengthen our collective efforts to improve Wisconsin's land and water! Whether you're a fresh graduate or a seasoned veteran, there will be something for everyone. While the focus of this session is women in conservation, all are welcome to join in the conversation.

**Restoring Hydrology to Solve Problems - What's Needed and How do We Get There?** Join colleagues from Wisconsin Wetlands Association, UW-Extension, and WI Land+Water for an interactive session on how degraded hydrologic conditions contribute to today's water management challenges and opportunities to integrate hydrologic assessment and wetland, stream, and floodplain restoration to reduce flooding and improve water quality. A facilitated discussion will follow the short presentation to explore what data, training, and technical support counties would need to better integrate hydrologic assessment and restoration approaches in their work. Results from this session will help inform collaborative discussions with all three organizations, and other state agencies, on hydrologic restoration training and technical support needs and opportunities to promote hydrologic restoration in Wisconsin. **1 Engineering Professional Development Hour.**

**Chronic Wasting Disease (CWD),** a fatal and contagious neurodegenerative disease of deer, was first detected in the State of Wisconsin in 2002. Despite efforts by the Departments of Natural Resources (DNR) and Agriculture, Trade and Consumer Protection (DATCP), the disease is firmly entrenched in both free-ranging and commercial captive deer facilities across a broad swath of the state. We'll explore disease background, observed patterns of CWD in both free-ranging and captive herds, what science tells us about risks, and opportunities for disease mitigation and management. The session will be led by *Bryan Richards, Emerging Disease Coordinator at the U.S. Geological Survey's National Wildlife Health Center in Madison, WI,* and include updates from LCD staff.

**Generational Workforce Solutions.** There are five different generations represented in today's workforce, each with a core set of values and characteristics that differ from each other. This session will provide tips and strategies to help understand, motivate, and succeed with each generation and leave the participants with thought-provoking ideas that may change how you not only view your co-workers, but also yourself. *Presenter: Brad Gingras, Superior Strategies.*

**Friday, March 6, 8:00-9:00am**

**Brown County's Northern Pike Habitat Restoration Project.** *Chuck Larscheid, Brown Co. LWCD*, will present on the need for assisting northern pike reproduction in tributaries to the Bay of Green Bay (Lake Michigan), examples of environmental problems limiting pike reproduction, habitat improvement projects Brown County has designed and completed, and pictures of adult northern pike, young of the year, and staff conducting monitoring projects.

**Southwest Wisconsin Groundwater and Geology Study Update.** Hear updates from the researchers covering source testing, well construction analysis, and bedrock mapping. Counties will share their perspectives on the study and where to go from here. *Presenters: Lynda Schweikert, Grant County; Katie Abbott, Iowa County; Terry Loeffelholz, Lafayette County; Joel Stokdyk, Biologist U.S. Geological Survey, Upper Midwest Water Science Center Laboratory for Infectious Disease and the Environment; Maureen Muldoon, Hydrogeologist, Wisconsin Geological and Natural History Survey; and Ken Bradbury, Director and State Geologist, Wisconsin Geological and Natural History Survey.*

**DNR Rain Garden Technical Standard.** Rain gardens are used to manage stormwater on small residential and commercial sites, including shoreland properties, to meet impervious surface limits in NR 115. This session will review the DNR Technical Standard 1009, which was published by the Department of Natural Resources in September 2018 and developed through the Wisconsin Standards Oversight Council (SOC) process. The standard addresses the planning, design, installation, and maintenance of rain gardens. The presenter is *Perry Lindquist, Land Resources Manager for the Waukesha County Department of Parks and Land Use*, who served as the team leader for the development of the standard, and oversees the stormwater program for Waukesha County. **1 Engineering Professional Development Hour.**

**If you build it they will come: County Presentations.** *Marie Raboin, Dane Co. LCD*, shares their project objective that by promoting the idea of a farming community and supporting livestock farms to implement the practice of grazing fall-planted cover crops will lead to the implementation of this practice across the Southern Wisconsin landscape. Next *Brent Peterson, Brown Co. LWCD*, builds confidence in the Lower Fox Demonstration Farm Network with a variety of strategies as different as producers are. Outreach strategies, such as mass text-messaging, a field sign campaign, and field days designed for targeted, small group interactions, they focus their efforts on engaging middle adopters.

**Working Cooperatively with Tribal Partners to further Conservation Efforts in your County.** A look at some of the successful conservation efforts being carried out by the Oneida Tribe of Indians as well as areas where partnerships between the Tribe and the County LCD have helped to further the conservation efforts. *Presenters: Jon Habeck, Oneida Nation, and Greg Baneck, Outagamie Co. LCD*

**Friday, March 6, 9:15-10:15am**

<p><b>Green Bay - Before the Packers and After.</b> Learn about Green Bay's long history ... Native American, French, British and United States, natural resources, transportation, prohibition, manufacturing, cheese, and football. Always with some fun! <i>Presenter: Mary Jane Herber, Brown County Historical Society.</i></p>	<p><b>Hydrogeology of Wisconsin: Introduction to Hydrogeology and How the Geology of Wisconsin's Aquifers Affects Groundwater Flow and Aquifer Vulnerability.</b> <i>Dr. Maureen Muldoon, Research Hydrogeologist at Wisconsin Geological and Natural History Survey</i> will provide a brief introduction to the basics of hydrogeology (aquifer properties, principles of groundwater flow) before exploring how geologic variability affects groundwater flow patterns and the varying vulnerability of Wisconsin's aquifers. <b>1 Engineering Professional Development Hour.</b></p>
<p><b>Building a farmer-led market driver for agricultural water stewardship.</b> Meeting the pressing need for better on-farm water stewardship is especially challenging right now, as farmers face an extraordinarily difficult financial landscape for agricultural products. This session presents the Clear Water Farms program, which certifies individual farm operations on the Alliance for Water Stewardship International Standard and aims to create a farmer-led, and empirically credible, credential for water stewardship achievements. We will discuss the opportunities and challenges of using this certification to create market driver for agricultural water stewardship. <i>Presenter: Dr. Michael Tiboris, Clear Water Farms Director, River Alliance of Wisconsin.</i></p>	<p><b>Aquatic Invasive Species: Round-em up ... Barriers improve aquatic herbicide control.</b> <i>Chuck Druckrey, Marinette Co. LWCD</i> shares his work on a DNR-funded project that tests the efficacy of enclosures in the herbicide control of Eurasian Water Milfoil (EWM). He designed a curtain that encircles the EWM bed and the herbicide is applied inside. He'll share his first year's results, data, and impressions. Next, <b>Sick of wet soggy data sheets? We are!!! Iron County Joins the Geek Squad!!</b> <i>Zach Wilson, Iron County LWCD</i> will share their new integrated open-source data collecting tool. He'll discuss how the department has been using KoBoToolbox since 2017 to collect and manage field data on a variety of applications, including invasive species monitoring and management, shoreline restoration monitoring, wildlife habitat research, Coarse Woody Habitat, shoreline substrate mapping, and more. The presentation will examine the pros and cons of using KoBoToolbox.</p>
<p><b>Long term observed and historical precipitation trends in northeast Wisconsin.</b> This session will cover the climatology and precipitation trends observed in northeast Wisconsin, utilizing observed data from the past century. This climatology will then be compared to the observed precipitation trends from the past decade for multiple sites in the region. A brief outlook for the upcoming year will also be included. <i>Presenter: Timm Uhlmann, National Oceanic and Atmospheric Administration.</i></p>	

Invoice Number	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Net Amount
Department <b>31 - Soil, Water, Conservation</b>									
Vendor <b>12526 - BRIAN FOREST</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
20191203	Stream Sample Supplies - Kayes Larson	Paid by Check #670508		11/26/2019	12/06/2019	12/06/2019		12/11/2019	13.26
		Sub-Department <b>31 Soil, Water, Conservation</b> Totals					Invoices	1	0
		Vendor <b>12526 - BRIAN FOREST</b> Totals					Invoices	1	\$13.26
Vendor <b>4818 - CELLCOM WISCONSIN RSA 10</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
454001	Oct/Nov Cellular Charges	Paid by Check #670509		11/26/2019	12/06/2019	12/06/2019		12/11/2019	54.20
595004	Nov/Dec Cellular Charges	Paid by Check #670702		12/18/2019	12/18/2019	12/18/2019		12/20/2019	58.87
		Sub-Department <b>31 Soil, Water, Conservation</b> Totals					Invoices	2	0
		Vendor <b>4818 - CELLCOM WISCONSIN RSA 10</b> Totals					Invoices	2	\$113.07
Vendor <b>8986 - DANIEL LINDNER</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
20191031	Abatement Supplies	Paid by Check #669863		11/04/2019	11/15/2019	11/04/2019		11/13/2019	96.29
		Sub-Department <b>31 Soil, Water, Conservation</b> Totals					Invoices	1	0
		Vendor <b>8986 - DANIEL LINDNER</b> Totals					Invoices	1	\$96.29
Vendor <b>11218 - DONNA &amp; KENNETH VANDERHOOF</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
20191030	NMP - SWRM CS Payment	Paid by Check #669864		11/04/2019	11/15/2019	11/04/2019		11/13/2019	2,913.20
		Sub-Department <b>31 Soil, Water, Conservation</b> Totals					Invoices	1	0
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Vendor <b>11219 - DONNA &amp; KENNETH VANDERHOOF AND DOOR COUNTY SWCD</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
20191030	Recording Fee - SWRM CS Payment	Paid by Check #669865		11/04/2019	11/15/2019	11/04/2019		11/13/2019	30.00
		Sub-Department <b>31 Soil, Water, Conservation</b> Totals					Invoices	1	0
		Vendor <b>11219 - DONNA &amp; KENNETH VANDERHOOF AND DOOR COUNTY SWCD</b> Totals					Invoices	1	\$30.00
Vendor <b>22208 - ERIN HANSON</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
20191218	Cty Con Mtg - Lodging/Meal	Paid by Check #670703		12/18/2019	12/18/2019	12/18/2019		12/20/2019	121.66
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		Vendor <b>22208 - ERIN HANSON</b> Totals					Invoices	1	\$121.66
Vendor <b>11510 - GENERATIONAL PROPERTIES LLC</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
20191121	CREP Equiv - SWRM C/S Payment	Paid by Check #670510		11/26/2019	12/06/2019	12/06/2019		12/11/2019	8,273.27
		Sub-Department <b>31 Soil, Water, Conservation</b> Totals					Invoices	1	0

Invoice Number	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Net Amount
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Vendor <b>11511 - GENERATIONAL PROPERTIES LLC AND DOOR COUNTY SCWD</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
20191121	Recording Fee - SWRM CS Payment	Paid by Check #670511		11/26/2019	12/06/2019	12/06/2019		12/11/2019	30.00
Sub-Department <b>31 Soil, Water, Conservation</b> Totals						Invoices	1		0
Vendor <b>11511 - GENERATIONAL PROPERTIES LLC AND DOOR COUNTY SCWD</b> Totals						Invoices	1		\$30.00
Vendor <b>3557 - GREG COULTHURST</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
20191216	Cty Con Mtg - Meal	Paid by Check #670704		12/18/2019	12/18/2019	12/18/2019		12/20/2019	15.83
Sub-Department <b>31 Soil, Water, Conservation</b> Totals						Invoices	1		0
Vendor <b>3557 - GREG COULTHURST</b> Totals						Invoices	1		\$15.83
Vendor <b>2839 - KAREN ALEXANDER</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
20191031	Abatement Supplies	Paid by Check #669866		11/04/2019	11/15/2019	11/04/2019		11/13/2019	462.09
Sub-Department <b>31 Soil, Water, Conservation</b> Totals						Invoices	1		0
Vendor <b>2839 - KAREN ALEXANDER</b> Totals						Invoices	1		\$462.09
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Sub-Department <b>31 Soil, Water, Conservation</b>									
20191121	NMP - SWRM CS Payment	Paid by Check #670512		11/26/2019	12/06/2019	12/06/2019		12/11/2019	688.00
Sub-Department <b>31 Soil, Water, Conservation</b> Totals						Invoices	1		0
Vendor <b>11515 - LARRY &amp; SANDRA DEMASTER AND DOOR COUNTY COOP</b> Totals						Invoices	1		\$688.00
Vendor <b>11517 - LARRY &amp; SANDRA DEMASTER AND DOOR COUNTY SWCD</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
20191121	Recording Fee - SWRM CS Payment	Paid by Check #670513		11/26/2019	12/06/2019	12/06/2019		12/11/2019	30.00
Sub-Department <b>31 Soil, Water, Conservation</b> Totals						Invoices	1		0
Vendor <b>11517 - LARRY &amp; SANDRA DEMASTER AND DOOR COUNTY SWCD</b> Totals						Invoices	1		\$30.00
Vendor <b>7754 - LAU'S AUTO CARE CENTER</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
31173	2010 Escape - Oil Change & Repair Door	Paid by Check #669867		11/04/2019	11/15/2019	11/04/2019		11/13/2019	109.95
31187	2016 Chevy - Brake & Rotors	Paid by Check #669867		11/04/2019	11/15/2019	11/04/2019		11/13/2019	282.59
31453	Explorer-Lube,Oil,Filter	Paid by Check #670514		11/26/2019	12/06/2019	12/06/2019		12/11/2019	34.95
Sub-Department <b>31 Soil, Water, Conservation</b> Totals						Invoices	3		0
Vendor <b>7754 - LAU'S AUTO CARE CENTER</b> Totals						Invoices	3		\$427.49
Vendor <b>12555 - LEE PETRINA</b>									

Invoice Number	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Net Amount
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Sub-Department <b>31 Soil, Water, Conservation</b>									
20191210	Abatement Supplies	Paid by Check #670515		11/26/2019	12/06/2019	12/06/2019		12/11/2019	1,837.67
		Sub-Department <b>31 Soil, Water, Conservation</b> Totals				Invoices		1	0
		Vendor <b>12555 - LEE PETRINA</b> Totals				Invoices		1	\$1,837.67
Vendor <b>11512 - LEVI ARMSTRONG AND DOOR COUNTY COOP</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
20191121	NMP - SWRM CS Payment	Paid by Check #670516		11/26/2019	12/06/2019	12/06/2019		12/11/2019	1,440.00
		Sub-Department <b>31 Soil, Water, Conservation</b> Totals				Invoices		1	0
		Vendor <b>11512 - LEVI ARMSTRONG AND DOOR COUNTY COOP</b> Totals				Invoices		1	\$1,440.00
Vendor <b>11514 - LEVI ARMSTRONG AND DOOR COUNTY SWCD</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
20191121	Recording Fee - SWRM CS Payment	Paid by Check #670517		11/26/2019	12/06/2019	12/06/2019		12/11/2019	30.00
		Sub-Department <b>31 Soil, Water, Conservation</b> Totals				Invoices		1	0
		Vendor <b>11514 - LEVI ARMSTRONG AND DOOR COUNTY SWCD</b> Totals				Invoices		1	\$30.00
Vendor <b>11506 - LYNN BAKER &amp; JOANN GEIMER</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
20191121	CREP Equiv - SWRM C/S Payment	Paid by Check #670518		11/26/2019	12/06/2019	12/06/2019		12/11/2019	9,864.28
		Sub-Department <b>31 Soil, Water, Conservation</b> Totals				Invoices		1	0
		Vendor <b>11506 - LYNN BAKER &amp; JOANN GEIMER</b> Totals				Invoices		1	\$9,864.28
Vendor <b>11508 - LYNN BAKER &amp; JOANN GEIMER AND DOOR COUNTY SWCD</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
20191121	Recording Fee - SWRM CS Payment	Paid by Check #670519		11/26/2019	12/06/2019	12/06/2019		12/11/2019	30.00
		Sub-Department <b>31 Soil, Water, Conservation</b> Totals				Invoices		1	0
		Vendor <b>11508 - LYNN BAKER &amp; JOANN GEIMER AND DOOR COUNTY SWCD</b> Totals				Invoices		1	\$30.00
Vendor <b>1713 - ROBERT LAUTENBACH</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
20191216	WDP Abatement Supplies	Paid by Check #670705		12/18/2019	12/18/2019	12/18/2019		12/20/2019	969.53
		Sub-Department <b>31 Soil, Water, Conservation</b> Totals				Invoices		1	0
		Vendor <b>1713 - ROBERT LAUTENBACH</b> Totals				Invoices		1	\$969.53
Vendor <b>15236 - TIM &amp; SUE SOUKUP</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
20191030	NMP - SWRM CS Payment	Paid by Check #669868		11/04/2019	11/15/2019	11/04/2019		11/13/2019	2,800.00
		Sub-Department <b>31 Soil, Water, Conservation</b> Totals				Invoices		1	0
		Vendor <b>15236 - TIM &amp; SUE SOUKUP</b> Totals				Invoices		1	\$2,800.00

G/L Date Range 11/01/19 - 12/31/19  
 Report By Department - Vendor - Invoice  
 Summary Listing

Invoice Number	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Net Amount
Vendor <b>11214 - TIM &amp; SUE SOUKUP AND DOOR COUNTY SWCD</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
20191030	Recording Fee - SWRM CS Payment	Paid by Check #669869		11/04/2019	11/15/2019	11/04/2019		11/13/2019	30.00
		Sub-Department <b>31 Soil, Water, Conservation</b> Totals				Invoices	1		0
		Vendor <b>11214 - TIM &amp; SUE SOUKUP AND DOOR COUNTY SWCD</b> Totals				Invoices	1		<u>\$30.00</u>
Vendor <b>15202 - WI DOCUMENT IMAGING</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
87642	November Leased Copier Charge	Paid by Check #670520		11/25/2019	12/06/2019	12/06/2019	11/25/2019	12/11/2019	106.97
		Sub-Department <b>31 Soil, Water, Conservation</b> Totals				Invoices	1		0
		Vendor <b>15202 - WI DOCUMENT IMAGING</b> Totals				Invoices	1		<u>\$106.97</u>
Vendor <b>7134 - WI LAND + WATER CONSVTN ASSOC</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
6073	County Con Meeting	Paid by Check #670521		11/26/2019	12/06/2019	12/06/2019		12/11/2019	220.00
		Sub-Department <b>31 Soil, Water, Conservation</b> Totals				Invoices	1		0
		Vendor <b>7134 - WI LAND + WATER CONSVTN ASSOC</b> Totals				Invoices	1		<u>\$220.00</u>
Vendor <b>13203 - WI STATE LABORATORY OF HYGIENE</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
612910	Stream Samples - Kayes Larson	Paid by Check #669870		11/04/2019	11/15/2019	11/04/2019		11/13/2019	3,058.00
617354	Stream Samples - Kayes Etal Silver	Paid by Check #670706		12/18/2019	12/18/2019	12/18/2019		12/20/2019	973.00
		Sub-Department <b>31 Soil, Water, Conservation</b> Totals				Invoices	2		0
		Vendor <b>13203 - WI STATE LABORATORY OF HYGIENE</b> Totals				Invoices	2		<u>\$4,031.00</u>
Vendor <b>5999 - WISCONSIN DOCUMENT IMAGING</b>									
Sub-Department <b>31 Soil, Water, Conservation</b>									
84729	Oct Leased Copier Charges	Paid by Check #669871		11/04/2019	11/15/2019	11/04/2019		11/13/2019	318.72
		Sub-Department <b>31 Soil, Water, Conservation</b> Totals				Invoices	1		0
		Vendor <b>5999 - WISCONSIN DOCUMENT IMAGING</b> Totals				Invoices	1		<u>\$318.72</u>
		Department <b>31 - Soil, Water, Conservation</b> Totals				Invoices	29		<u>\$34,892.33</u>
<b>31 Soil, Water, Conservation</b>									
				Grand Totals		Invoices	29		<u><u>\$34,892.33</u></u>