**DNR NUTRIENT MANAGEMENT PLAN**

**NARRATIVE TEMPLATE**

**2024**

The purpose of this document is to aid WPDES permitted farms in creating and/or updating a narrative for a Nutrient Management Plan (NMP). This narrative template is an aid for submittal but is not a required document.

NR 243 contains both general and specific manure and process wastewater land application restrictions. A NMP narrative is an excellent way for a CAFO permitted farm to demonstrate how it will comply with general and specific land application restrictions of NR 243 and some applicable requirements from NRCS 590.

Several narrative areas contain RED text. RED text indicates where a CAFO permitted farm will need to provide or reference farm specific information (manure spreading methods, schedule, etc.). Farm X should be replaced with the farm specific name.

**Wisconsin NR 243 Requirements**

**Farm Sites with Expected Animal Numbers for First Year of Permit and Remaining Permit Term**

**(Next Four Years)**

Please see form 3400-025A submitted within the permit application for Farm X current animal numbers. The form labeled ‘Current Animal Unit Calculation Numbers’ represents the total current AU’s at the farm. A planned herd size expansion will occur by year ‘XXXX’. See form labeled as ‘Projected Animal Unit Calculation Numbers’ for the planned AU’s after the expansion takes place. OR Currently there are no planned expansions in the next permit term.

**Total amount of liquid and solid waste produced by Farm X.**

This chart should include all waste generated on site by the farm including, but not limited to, manure, process wastewater, feed leachate, solid storage runoff, milk house water, etc.

|  |  |  |
| --- | --- | --- |
| **Year** | **Total Liquids** | **Total Solids** |
| 2010 | **7,300,000 gallons** | **8,513 tons** |
| 2011 | **7,300,000 gallons** | **8,513 tons** |
| 2012 | **15,946,500gallons** | **17,070 tons** |
| 2013 | **15,946,500 gallons** | **17,070 tons** |
| 2014 | **20,730,400** **gallons** | **20,287 tons** |

**Total waste received from offsite sources.**

This chart should include all waste that is accepted by the farm from an offsite source including but not limited to other CAFO facilities, non CAFO facilities, septic companies, cheese plants, etc.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Liquid Waste Source** | **Total Volume** | **Added to Pit? Y/N** | **Solid Waste Source** | **Total Amount** | **Added to Pit? Y/N** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| **Total Liquid Waste Sources** |  |  | **Total Solid Waste Sources**  |  |  |

*Note:* Add additional rows for other sources of waste generated or received by the operation.

**Total Amount of Manure, Process Wastewater and Other Sources created and to be Land Applied (This is the combined total of the above two tables).**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Year** | **Total Liquids created** | **Total Liquids applied** | **Total Solids created** | **Total Solids applied**  |
| 2010 | 9,950,000 gallons | 10,500,000 gallons | 8,533 tons  | 9,000 tons  |
| 2011 | 9,950,000 gallons | 11,000,000 gallons | 8,533 tons  | 9,000 tons  |
| 2012 | 19,596,000 gallons | 20,600,000 gallons | 17,090 tons | 18,000 tons |
| 2013 | 19,596,500 gallons | 20,600,000 gallons | 17,090 tons | 18,500 tons |
| 2014 | 24,380,000 gallons | 26,000,000 gallons | 20,307 tons | 20,500 tons |

**Special treatment of manure and process wastewater.**

This includes but is not limited to manure digestors, manure composting, solid and/or sand separation, etc.

Farm X does not use any special treatment of manure and process wastewater.

OR

Farm X does use special treatment of manure and process wastewater. Those methods include X, X, X.

**Manure and process wastewater distribution and WPDES to WPDES permit transfers.**

Farm X does not plan to distribute any manure or process wastewater to another entity.

OR

Farm X does plan to distribute manure or process wastewater to another entity. This distribution meets the criteria in NR 243.142(2).

|  |  |  |  |
| --- | --- | --- | --- |
| **Manure or process wastewater source name to be distributed** | **Total amount distributed annually**  | **Entity receiving the distributed manure or process wastewater** | **Distribution method (Choose one from NR 243.142(2))** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

***Description of planned distribution listed above.***

**Anticipated frequency and method(s) of land application**

Farm X anticipates applying manure according to the following schedule: approximately twice per month for 3-4 day periods in May, July, October and November.Spreading will occur in spring before planting and in fall after harvest and after harvests of alfalfa, wheat and other crops. There will be no planned winter spreading..

Farm X anticipates using the following equipment to spread liquid and solid manure on fields in NM plan:

Surface manure spreaders or liquid injectors for liquid manure and process wastewater; surface spreaders for all solid manure. In the fall and spring, liquid manure will be either injected as much as possible, or incorporated immediately (SWQMA) or within 48 hours of surface application (non-SWQMA) whichever applies. All liquid or solid manure not injected will be incorporated with a disk till, or in the case of No-Till or alfalfa it will be surface applied in accordance with all NR 243 and NRCS 590 rules. In the summer, liquid manure may be top dressed on some alfalfa fields. Liquid manure spread on X Farm farm is hauled and applied by X Farm or Custom Hauler Name.

**Total acreage available for land application owned, rented or in ‘agreements’.**

Please see form 3400-025B for NMP field acres. This form has been cross referenced with the NMP and accurately demonstrates the total acres, total spreadable acres, total acres owned by the farm, and total acres rented or under manure agreements.

**Nutrient crediting requirements - NR 243.14(3)**

When selecting manure and process wastewater application rates for all fields, Farm X has taken into account:

1. soil nutrient levels prior to land spreading
2. known nutrient applications from other sources, including:
	1. commercial fertilizers
	2. bio-solids
	3. **first and second year** manure and legume credits
	4. other sources of nutrients that are expected to be applied or have already been applied to fields.

Adjustments will be made to assumed nutrient credits based upon actual crop yields.

**SWQMA application restriction option for each field AND procedures- NR 243.14(4)**

For manure and process wastewater applications within a SWQMA Farm X will follow SWQMA options X (select two or more of the following options).

1- Not apply manure or process wastewater within 25 feet of a navigable water, conduit to navigable water or wetland; and inject or immediately incorporate manure and process wastewater in all other areas within the SWQMA.

2- Not apply manure or process wastewater within 25 feet of a navigable water, conduit to navigable water or wetland; and surface apply liquid manure and process wastewater in all other areas of the SWQMA provided that all of the following conditions are met:

 a. The application is on longer-term no-till ground.

 b. The ground has 30% crop residue or more at the time of application.

 c. The hydraulic application rate is limited to that specific in Table 3. (NR 243.14(4)(c))

3- Establish a 35-foot wide vegetated buffer adjacent to the navigable water, conduit to navigable water or wetland where there is no application of manure or process wastewater on the buffer; and comply with a following practice:

 a. Inject or immediately incorporate manure and process wastewater in all other areas of the SWQMA, or

b. Surface apply in all other areas of the SWQMA provided the ground has 30% residue or more at the time of application and the hydraulic application rate is limited in accordance with Table 3. (NR 243.14(4)(c)).

4- Establish a filter strip that is a minimum of 21 feet wide adjacent to the navigable water, conduit to a navigable water or wetland; and comply with a following practice:

 a. Inject or immediately incorporate manure and process wastewater in all other areas of the SWQMA, or

b. Surface apply in all other areas of the SWQMA provided the ground has 30% residue or more at the time of application and the hydraulic application rate is limited in accordance with Table 3. (NR 243.14(4)(c)).

5- Not apply manure or process wastewater within 100 feet or a navigable water or conduit to a navigable water.

**Phosphorus delivery method (Soil Test P or P Index) and P management procedures for each field- NR 243.14(5)**

Farm X will use the P Index for all fields within the NMP.

OR

Farm X will use the Soil Test P method for all fields within the NMP.

**(Remove section below if all fields will use P index for P management. If Soil Test P method is being used, provide the following information.)**

**Soil Test P fields**

All fields using soil test P will be included within a **current** conservation plan for Farm X, or use the erosion assessment tools included with the P Index model. Farm X conservation plan **meets** the NRCS 590 criteria (V.C.2.b) below and addresses all soil erosion consistent with **current crops** and **management** or uses the erosion assessment tools included within the WI P Index model.

All fields using soil test P that have a high potential to deliver phosphorus to 303(d) listed waters impaired by nutrients or outstanding and exceptional resource waters, shall be managed by Farm X to ensure:

1. soil test P levels shall not increase over a crop rotation unless DNR provides written approval.
2. Same fields that have soil test phosphorus below optimum levels, soil test P levels shall not increase over a rotation above the optimum level for the highest demanding phosphorus crop in a rotation.

NRCS 590 Conservation Plan Criteria - (V.C.2.b) (**Remove this section if all fields will use P index for P management.)**

The plan must be developed by 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.

* + - The conservation plan must be signed by the land operator and approved by the county land conservation committee or their representative.
		- A conservation planner must develop conservation plans using the minimum criteria found in the USDA, NRCS National Planning Procedures Handbook and the WI Field Office Technical Guide.
		- In crop fields where ephemeral erosion is an identified problem, a minimum of one of the following runoff reducing practices shall be implemented:
			* Install/maintain contour strips and/or contour buffer strips.
			* Install/maintain filter strips along surface waters and concentrated flow channels that empty into surface waters that are within or adjoin areas where manure will be applied.
			* Maintain > 30% crop residue or vegetative cover on the soil surface after planting
			* Establish fall cover crops.

Farm X will follow the P Management procedures listed below when applying manure and process wastewater to fields to demonstrate compliance with NR 243.14(5)(b).

**Fields with soil test P between 100-200 ppm**:

* The rotational average P Index value for the crop rotation or for the next 4 year period, whichever time period is less, will be calculated.
* When P Index is > 6, manure application(s) to fields are prohibited.
* When P index is < 6, manure applications allowed with P drawdown by 50% cumulative crop removal over a maximum 4 year rotation will be implemented.

**Fields with soil test P greater than 200 ppm**:

* P applications from manure and process wastewater prohibited, unless approved by DNR.
* The planned average WI P Index value for the crop rotation or for the next 4 year period, whichever time period is less, will be calculated.
* P drawdown by 50% cumulative crop removal over a maximum 4 year rotation will be implemented.

**Identification of sites for winter (frozen or snow-covered ground) solid manure spreading – NR 243.14(8)**

Farm X does not plan to spread solid manure onto fields during winter (frozen or snow-covered ground) conditions.

OR

Farm X plans to spread solid manure onto fields in NMP during winter (frozen or snow-covered ground) conditions. Fields X-X have been selected for winter applications of solid manure.

**Identification of sites for emergency liquid or solid winter (frozen or snow-covered ground) manure spreading – NR 243.14(8)**

For compliance with NR 243.14(8) winter spreading sites requirement, fields X-X have been selected for emergency winter application(s) if application(s) of liquid or solid manure become necessary. These fields have been evaluated by Farm X to meet the NR 243 criteria in Tables 4 and 5 for manure and criteria in 214.17(2) and (6) for process wastewater. Farm X has also determined these fields represent the lowest pollutant delivery to waters of the state and have winter acute loss index value of 4 or less using the Wisconsin Phosphorus Index. In addition, Farm X will evaluate these same fields at time of manure application to determine if conditions are suitable for applying manure and complying with the requirements of NR 243.14(8).

**Manure Stacking – NR 243.141**

All manure stacking sites used by Farm X shall be included in this NMP and must receive DNR review and approval before use. Stacking sites formally approved by DNR must be submitted and re-evaluated. All manure stacking sites shall be selected for compliance with all requirements of NR 243.141.

Farm X does not plan to use manure stacking.

OR

Farm X plans to use manure stacking within the permit term. Below is a list of sites to be approved for manure stacking.

|  |  |  |  |
| --- | --- | --- | --- |
| **Stacking site name** | **Crop field stack is located within** | **Percent solids of manure to be stacked on site** | **Months sites will be utilized** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**General Manure and process wastewater application requirements – NR 243.14(2)(b)(1-13)&(c-f)**

Farm X will take several actions to ensure all manure and process wastewater is land applied in compliance following general landspreading requirements of NR 243.14:

* No ponding on application site
* During dry weather, no runoff from the application site, nor discharge to waters of the state through subsurface drains
* No causing fecal contamination of water in a well
* Unless rain event is greater than 25 yr/24 hr event and farm complies with NMP and WPDES permit, no runoff from the application site, nor discharge to waters of the state through subsurface drains due to precipitation or snowmelt
* No application on saturated soils
* Maximize use of available nutrients, prevent delivery of manure and process wastewater to waters of the state, and minimize the loss of nutrients and other contaminants to waters of the state to prevent exceedances of groundwater and surface water quality standards and to prevent impairment of wetland functional values
* Retain nutrients in the soil with minimal movement
* No application within 100 feet of direct conduits to groundwater
* No applications within 100 feet of private well and 1000 feet of commercial well
* No application on fields with soils that are 60 inch thick or less over fractured bedrock when ground is frozen or where snow is present.
* No application when snow is actively melting such that water is flowing off a field.

Farm X has included spreading maps within this NMP that visually describe how the farm will meet many of these general spreading requirements. These maps will be evaluated on an ongoing basis to ensure all required restrictions are correctly identified.

**Restriction map and field verification.**

Prior to spreading manure onto fields, Farm X employee name (include custom hauler name if applicable) will complete the following procedures to ensure all manure spreading will be in compliance with NR 243 and 590 criteria:

* Spreading maps will be reviewed by X and X to identify all restricted or prohibited features and setback distances on the field.
* Fields will be inspected for restricted or prohibited features; any new conditions/features will be identified.
* Once identified, prohibited field features will be avoided and setback distances (as depicted on spreading maps or in NR 243 or NRCS 590) will be measured and followed during manure spreading.
* Spreading maps will be updated with any new prohibited/restricted field features or conditions.
* A log will be kept with the NMP to track the map and field verification procedures listed above. (See example log in appendix)

**Surface applications & precipitation forecast for runoff within 24 hours – NR 243.14(2)(b)(13)**

For this NMP, ***surface*** applications of manure will not be completed when rain events capable of producing runoff are forecasted within 24 hours of the time of planned applications. Surface application means manure that is applied and left on the surface of the field. Surface application does not mean manure that is surface applied and then incorporated into the soil.

Prior to manure applications to fields, this website, monitoring station, or other method will be used to track weather forecast data. This information will be used to determine the risk for forecasted precipitation to cause run-off from fields. Weather forecast data will be documented and kept with the NMP. All weather forecast data will be submitted with annual reports as an attachment.

**Drain tile fields & tile discharges to surface waters -NR 243.14(2)(b)(2),(4)&(6) and NRCS 590 (V.A.1.k)**

Drain tile discharges of manure and process wastewater from fields to surface waters are not allowed under NR 243. Please see the SNAP Plus 590 assessment report for a list of fields that are tiled. The following procedures will be followed on fields with tile drainage.

**Prior to spreading manure onto fields with drain tiles:**

* Spreading maps will be reviewed to identify know drain tile locations.
* Fields will be inspected for drain tile presence or outlets; any new tile outlets/subsurface drainage systems will be identified
* All tile outlets will be visually checked for flow and water conditions (e.g., clear, colored, foam, odor, etc).
* Results of all visual tile monitoring will be tracked – using form in Appendix B - and kept with NMP

**During and after manure spreading on fields with drain tiles, best management practices will be followed:**

* Visual inspection of tile outlets for flow and water conditions (e.g., clear, colored, foam, odor, etc.)
* Containing manure or process wastewater tile discharges from release into waterway(s)
* Notifying DNR of any spills/discharges to waterways from tiles
* Reducing application rates or delaying application(s) to tiled fields
* Maintaining setbacks from tiled areas
* Results of visual inspections of tiles will be tracked – using form in Appendix B of this narrative and kept with NMP.

**Manure applications to areas of fields with shallow groundwater or bedrock – NR 243.14(2)(b)(7).**

NR 243 prohibits manure applications on areas of fields that have groundwater or bedrock within 24 inches of the field surface *at time of application*. Farm X will demonstrate compliance with this prohibition by:

* Implementing DNR guidance, dated March 2009. Please refer to Appendix C of this narrative for the DNR guidance.

OR

* Implementing alternative strategy for verifying depth to groundwater or bedrock within 24 inches. Describe strategy here:

**Silurian Bedrock TPS - NR 243.143**

The following fields have depth to Silurian Bedrock of 20ft or less and are required to follow the Silurian Bedrock Targeted Performance Standard (NR 151.075). *Depth to bedrock section should list all depth categories included in that field (i.e. 0-2, 2-3, 3-5, 5-20). Risk ranking is for fields less than 5ft to Silurian bedrock. The rankings should be based on risk of pathogen delivery to that field. Fields with more of a risk should be applied on last.*

|  |  |  |
| --- | --- | --- |
| FIELD NAME | DEPTH TO BEDROCK | RISK RANKING |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Daily Spreading Log and Annual Reports for DNR – NR 243.19**

Farm X will maintain daily spreading logs for all manure or process wastewater applications to NMP fields for compliance with NR 243.19 using the following form: (select one of the following options.)

* DNR form 3200-123
* Daily spreading log generated by SNAP Plus
* Farm specific template (give name of the report and submit copy).

The daily spreading log will also be used to complete required annual reports for DNR.

Farm X will use the following form to document and complete annual reports: (select one of the following options.)

* DNR form 3200-123A (excel spreadsheet version)
* Annual spreading report generated by SNAP Plus
* Farm specific template (give name of the report and submit copy)

**Manure Sampling**

Farm X employee name (include custom hauler name if applicable) shall analyze all manure and process wastewater sources applied to fields in accordance with WPDES permit conditions. Samples shall be collected so they are representative of all manure or process wastewater sources applied to fields. All manure and process wastewater sources shall be analyzed for Nitrogen, Phosphorus, and percent solids in years where manure and process wastewater is applied. Farm X will follow sampling methods found in UW publication A3769, Recommended Methods of Manure Analysis: <http://learningstore.uwex.edu/Assets/pdfs/A3769.pdf> .

Farm X will follow the required manure sampling density as laid out in the WPDES permit:

* For liquid manure and process wastewater, 2 samples shall be collected per calendar month when applications take place.
* For solid manure, 1 sample per quarter shall be collected when applications take place.

**Soil Testing**

Each field in the NMP is managed for compliance with NRCS A2100 soil testing criteria:<http://datcp.wi.gov/uploads/Farms/pdf/uwex-a2100.pdf>. Accordingly, all fields in this NMP either meet or are managed to meet A2100 criteria over time. For fields in this NMP that do not currently meet A2100, manure and process wastewater applications are prohibited until testing occurs.

**Fields with concentrated flow channels resulting in reoccurring gullies or ephemeral erosion .**

Farm X will evaluate fields on an ongoing basis each year for presence or flow channels or other types of ephemeral soil erosion. If fields show evidence of concentrated flow channels resulting in re-occurring gullies or ephemeral erosion, the following actions will be taken by the farm:

* + Spreading maps will be updated to reflect areas with concentrated flow channels;
	+ Manure will not be spread on fields with concentrated flow channels, until perennial vegetative cover is established in all areas of concentrated flow;
	+ A schedule for establishing perennial vegetative cover in all areas of concentrated flow as well as implementation dates will be recorded and kept with this NMP.
	+ One or more NRCS 590 runoff reducing practices for crop fields with ephemeral erosion will be selected and implemented. Practices selected and implementation dates will be recorded and kept with this NMP.

Once vegetated flow channels/grassed waterways established within fields, such areas will be maintained to perform their intended function and manure will not be applied within these areas.

**Field Inspection and Response Procedures for manure ponding, runoff from fields or drainage to subsurface tiles.**

Farm X will evaluate field and weather conditions prior to and during mechanical applicationsof **manures, organic byproducts and fertilizer** to ensure that applied material(s) do not cause ponding, runoff, or drainage to subsurface tiles.

The following response procedures will be followed by Farm X if/when ponding, runoff or drainage to subsurface tiles occurs during and/or after applications to fields:

1. Stop application immediately (if field application not finished)
2. Containment measures (e.g., earth berms, pumps, temporary pits, tillage, incorporation) will be implemented immediately to prevent off-site movement from field.
3. Changes in application rate, method, depth of injection or timing to the field shall be implemented during any future application to eliminate ponding, runoff or drainage to subsurface tiles.
4. Farm shall notify DNR of any spills or accidental release to comply with Ag Spill Law (289.11) or term of WPDES permit.

**Annual Updates**

This NMP will be updated annually. Each NMP annual update for Farm X shall include records/documentation of all soil or manure analyses as well as crops, tillage, nutrient application rates, and methods actually implemented on each field that receives nutrients. Annual updates are essential to document actual management practices and resulting soil erosion and water quality impacts on specific fields.

**Appendix C**

 BUREAU OF WATERSHED MANAGEMENT

INTERIM GUIDANCE

NUTRIENT MANAGEMENT - CAFO APPLICATIONS ON SHALLOW GROUNDWATER SOILS

**March 2009**

**Description:** Ch. NR 243, Wis. Adm. Code, restrictions CAFO manure and process wastewater applications to fields that have less than 24 inches of soil over groundwater or bedrock.

This guidance describes how permittees and their consultants can identify and determine whether to use these fields as well as how Department staff can review fields for compliance with this requirement.

*This document is intended solely as guidance, and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. This guidance does not establish or affect legal rights or obligations, and is not finally determinative of any of the issues addressed. This guidance does not create any rights enforceable by any party in litigation with the State of Wisconsin or the Department of Natural Resources. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.*

**Background**

NR 243.14(2)(b)(7) requires CAFO manure or process wastewater applications may not be applied on areas of a field with a depth to groundwater or bedrock of less than 24 inches.

This restriction applies only to those portions of field that have less than 24 inches of separation to groundwater. If portions of a field have at least 24” of soil, these portions of the field are not subject to the prohibition (i.e., there is no deminimus amount of field that falls into/out of a prohibition area that would allow the entire field to be determined to not meet/meet the restriction).

**NRCS Conservation Planning Technical Note WI-l**

This document (Appendix 1) identifies soils with high potential for groundwater contamination. It places restrictions on ‘w’ type soils. The ‘w’ symbol indicates the soil is very poorly and poorly drained has an apparent water table that is less than 12 inches from the surface for any duration at any time of the year. Accordingly, ‘w’ soils indicate, by definition, where the depth to groundwater may also be within 24 inches of the field surface for any duration at any time of the year.

**Tech Note WI-1 link (Sept 2007):**<http://www.wi.nrcs.usda.gov/technical/technotes.html>

**NRCS Soil Description for ‘w’ soils**

NRCS soil descriptions provide more detailed information for individual soils, including ‘w’ soils. Each description contains a category entitled DRAINAGE AND SATURATED HYDRAULIC CONDUCTIVITY. This category describes the depth to water table (groundwater) for specific time periods. Here are two examples:

Example 1 - Poorly drained. An apparent seasonal high water table is at 15 cm (0.5 foot) above the surface to 31 cm (1.0 foot) below the surface at some time during spring in most years.

Example 2 - Very poorly drained. Depth to the seasonal high water table ranges from 2 foot above the surface in ponded phases to 1 foot below the surface from September to June.

**For specific NRCS soil descriptions, use NRCS Soil Description Search link (click on soil series name search)**:<http://soils.usda.gov/technical/classification/osd/index.html>

**NRCS soil description, groundwater depth factors and NR 243 compliance**

The NRCS soil descriptions, however, are not regulatory. They are general guidance provided by NRCS for general nutrient management purposes. *The actual depth to groundwater on a specific day or under specific conditions may vary from the NRCS narrative soil descriptions.*

The following factors influence groundwater depth:

* Soil type(s) and moisture content.
* Field topography.
* Weather patterns (wet or dry seasons).
* Drainage systems (ditches and drain tiles).
* Crop and Tillage types.

NR 243.14 requires manure applications to fields meet the depth to groundwater requirement **on a field by field basis at the time of application**. The steps described below provide permitted CAFO farms some methods to demonstrate compliance with the NR243 depth to groundwater requirement. **Please note, this guidance does not preclude a CAFO farm from submitting or implementing alternative methods to this guidance\*.**

\* = Alternative methods do not become effective until the department has reviewed and approved the method.

Interim guidance for shallow groundwater soils

1. **For each field** **listed in farm’s Nutrient Management Plan (NMP), identify and map all ‘w’ soil units using tools below. Keep with NMP.**

Web Soil Survey - <http://websoilsurvey.nrcs.usda.gov/app/>

Tech Note WI-1 (Appx 1)- <http://www.wi.nrcs.usda.gov/technical/technotes.html>

1. **For each field, document the NRCS Soil Series description for all ‘w’ soil units using link below. Keep with NMP.** Use DRAINAGE AND SATURATED HYDRAULIC CONDUCTIVITY description to determine depth to water table time period(s).

NRCS Soil Description - <http://soils.usda.gov/technical/classification/osd/index.html>

1. **If possible, avoid applying manure or process wastewater to areas of fields with ‘w’ soils during shallow groundwater time periods listed in NRCS soil description(s). If avoidance is not possible, follow steps 4-6 below.**
2. **Before any application, inspect the ‘w’ soil section(s) of the field and answer the following question: Are ‘w’ soil sections of field ‘idle’ - Y or N?**

For purposes of this guidance, “idle” means: the ‘w’ soil section(s) of field show evidence of hydric soils and exhibit: (1) Wetland vegetation (woody vegetation, shrubs, grasses) or (2) Abandoned condition (e.g., no crops or evidence of recent crops for at least two years**).**

* + 1. **If Y – no application; locate alternative acreage.**
		2. **If N – go to Step 5.**
1. **Before any application, demonstrate ‘w’ soil sections of field do not have a groundwater depth of less than 24 inches.**
	* 1. **If Y– apply manure and follow all other NR243.14 manure spreading requirements.**
		2. **If N– no application; locate alternative acreage; or apply at time when groundwater depth is greater than 24 inches.**

 **For purposes of this guidance, ‘demonstrate’ means one of the following options:**

1. Locate drain tile(s) on the field with ‘w’ soils units. Determine drain tile(s) are functioning and tile depth is 24 inches or greater from the surface of the field. If drain tile(s) meet criteria above, complete application and follow all other NR243 spreading requirements (e.g., preventing drain tile discharges to surface waters).
2. Excavate at least two “representative” soil pits within at least one ‘w’ soil area on the field that is five acres or less in size\* (using mechanical soil auger or manual hand tools) to a depth of at least 30 inches. After at least one hour, observe if the water table is below 24 inches of surface. If both pits (for each five acre area) meet the criteria above, refill each pit, complete application and follow all other NR243 spreading requirements.

\*= When ‘w’ soil area on field is greater than five acres in size, excavate additional soil pits so a ratio of two pits for each 5 acre sized ‘w’ soil unit is met.

For purposes of this guidance, “representative” means choosing locations within a ‘w’ soil area of field that reflects the overall structure and characteristics of the ‘w’ soil unit.

**(6) Document steps taken at each field with ‘w’ soil units in WPDES permit daily and annual spreading reports.**