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Details:

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WISCONSIN STATE LEGISLATURE ...
PUBLIC HEARING - COMMITTEE RECORDS

2005-06

(session year)

Assembly

(Assembly, Senate or Joint)

Committee on ... Agriculture (AC-Ag)

COMMITTEE NOTICES ...

- Committee Reports ... **CR**
- Executive Sessions ... **ES**
- Public Hearings ... **PH**
- Record of Comm. Proceedings ... **RCP**

INFORMATION COLLECTED BY COMMITTEE FOR AND AGAINST PROPOSAL

- Appointments ... **Appt**
- Clearinghouse Rules ... **CRule**
- Hearing Records ... bills and resolutions
  (**ab** = Assembly Bill) (**ar** = Assembly Resolution) (**ajr** = Assembly Joint Resolution)
  (**sb** = Senate Bill) (**sr** = Senate Resolution) (**sjr** = Senate Joint Resolution)
- Miscellaneous ... **Misc**

Appendix B

NRCS 590

Appendix B

NUTRIENT MANAGEMENT

(Acre)
Code 590

Natural Resources Conservation Service
Conservation Practice Standard

I. Definition

Managing the amount, source, placement, form, and timing of the application of nutrients and soil amendments.

II. Purposes

This standard establishes the acceptable criteria and documentation requirements for a plan that addresses the application and *budgeting*[1] of nutrients for plant production. All nutrient sources, including soil reserves, commercial fertilizer, manure, organic byproducts, legume crops, and crop residues shall be accounted for and properly utilized. These criteria are intended to minimize nutrient entry into surface water, groundwater, and atmospheric resources while maintaining and improving 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. Federal, State, and Local Laws

Users of this standard are responsible for compliance with applicable federal, state, 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.

V. 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 Criteria A., B., C., D., and E.

All of the information contained in this section is required. Wisconsin Conservation Planning 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 soil fertility recommendations found in University of Wisconsin-Extension (UWEX) Publication A2809, "Soil Test Recommendations for Field, Vegetable and Fruit Crops," unless use of one the following options are appropriate:

      - For crops not listed in 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 V.A.1.l.

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

   b. The plan shall be based on yield goals that are attainable under average growing conditions and established

[1] Words in the standard that are shown in italics are described in X. Definitions. The words are italicized the first time they are used in the text.

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. 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 Appendix 2 of the Wisconsin Conservation Planning Technical Note WI-1. Soil sampling shall be consistent with UWEX Publication A2100, "Sampling Soils for Testing." For perennial fruit crops, use of soil test recommendations from UWEX Publication A-2809 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 V.A.1.l.

d. Annual P and K nutrient recommendations may be combined into a single application that does not exceed the total nutrient recommendation for the rotation. This combined annual application is not allowed on frozen or snow covered soil. Commercial P fertilizers shall not be applied to soils with P tests in the non-responsive range for the crop being grown with the exception of not more than 20 pounds per acre P_2O_5 as starter for corn or recommended rates of starter P_2O_5 for potatoes and other vegetable crops as identified in UWEX Publication A3422, "Commercial Vegetable Production in Wisconsin." All the P and K starter fertilizer shall be credited against crop needs. When grouping fields for nutrient application purposes, N, P, and K application rates shall match individual field recommendations as closely as possible.

e. Where practical, adjust soil pH to the specific range of the crop(s) grown to optimize nutrient utilization.

f. Available nitrogen from all sources shall not exceed the annual N requirement of non-legume crops consistent with UWEX Publication A2809, or the annual N uptake by legume crops. Because of variability in N mineralization and manure applications, it is acceptable for available N to be up to 20% more than the recommended N rate when legumes, manures, and organic byproducts are used to meet the entire N requirement of the crop to be grown.

Starter N fertilizers are to be credited against crop needs as follows: all N beyond 20 pounds per acres for corn and 40 pounds per acre for potatoes.

g. First year available N in manure applied to fields prior to legume crop establishment shall not exceed the first year's annual N removal by legumes and companion crop. See Wisconsin Conservation Planning Technical Note WI-1, Part II B.4.

h. First and second-year legume credits shall be applied as identified in UWEX Publication A2809, Table 25, or through soil nitrate testing as identified in UWEX Publication A3624, "Soil Nitrate Tests for Wisconsin Cropping Systems."

i. Estimates of first-year available nutrient credits for manure shall be established in accordance with one of the following methods:

(1) A manure analysis from a laboratory participating in the Manure Analysis Proficiency (MAP) testing program and interpreted according to Part III, Table 3 of the Wisconsin Conservation Planning Technical Note WI-1, or

(2) Estimates of first-year available nutrients from manure. See Part III, Table 4 of the Wisconsin Conservation Planning Technical Note WI-1.

Note: It is strongly recommended that second-year nutrient credits, especially for areas receiving consecutive manure applications, be

included in the nutrient management plan using values in Part III, Table 4 of Wisconsin Conservation Planning Technical Note WI-1 or soil nitrate testing.

j. Organic byproducts other than manure (i.e., industrial wastes, municipal sludge, and septage) applied to fields shall be analyzed for nutrient content and applied in accordance with applicable regulations including restrictions on heavy metal content and land application rates.

k. Manures, organic byproducts, and fertilizers shall not run off the field site during or immediately after application. If ponding, runoff, or drainage to subsurface tiles of the applied materials occurs, implement the following activities as appropriate:

(1) Stop application.

(2) Take corrective action to prevent offsite movement.

(3) Modify the application (rate, method, depth of injection, timing) to eliminate runoff or drainage to subsurface tiles.

(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 the Wisconsin Conservation Planning Technical Note WI-1, Part IV, for contact information and "Agricultural Spills and How to Handle Them," Pub-RR-687-2002, August 2002.

l. Where nutrient application decisions are 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 in the references section of this standard. Nutrient recommendations for cranberries may be based on plant analysis as defined by appropriate publications in the references section of this standard.

m. Where *gleaning/pasturing* occurs, verify through computations that the nutrients deposited as manure within a field, do not exceed the N and P requirements of this standard.

2. Nutrient Application Prohibitions

a. Nutrients shall not be spread on the following features.

(1) Surface water, established *concentrated flow channels,* or non-harvested *permanent vegetative buffers.*

(2) A non-farmed wetland, sinkhole, nonmetallic mine, or well.

(3) The area within 50 feet of a potable drinking water well shall not receive mechanical applications of manure.

(4) Areas contributing runoff within 200 feet upslope of *direct conduits to groundwater* such as a well, sinkhole, fractured bedrock at the surface, *tile inlet,* or nonmetallic mine unless the nutrients are *effectively incorporated* within 72 hours.

(5) Land where vegetation is not removed mechanically or by grazing, except to provide nutrients for establishment and maintenance, unless necessary in an emergency situation.

(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.

b. When frozen or snow-covered soils prevent effective incorporation at the time of application and the nutrient application is allowed, implement the following:

(1) Do not apply nutrients within the *Surface Water Quality Management Area (SWQMA)*

except for manure deposited through winter gleaning/pasturing of plant residue.

(2) Do not apply nutrients to locally identified areas delineated in a *conservation plan* as contributing nutrients to direct conduits to groundwater or surface water as a result of runoff.

(3) Do not exceed the P removal of the following growing season's crop when applying manure. Liquid manure applications are limited to 7,000 gallons per acre. The balance of the crop nutrient requirement may be applied the following spring or summer. Winter applications shall be conducted according to Section VII.B.

(4) Do not apply nutrients on slopes greater than 9%, except for manure on slopes up to 12% where cropland is contoured or contour strip cropped.

(5) Do not apply N and P in the form of commercial fertilizer. An exception is allowed for grass pastures and on winter grains that do not fall within a prohibition area defined by V.A.2.

3. Nutrient Application Restrictions

a. When unincorporated liquid manure applications (less than 12% solids) occur on non-frozen soils within a SWQMA, use Table 1 to determine maximum acceptable rates. No applications are allowed on *saturated soils*.

Sequential applications may be made to meet the desired nutrient additions consistent with this standard. Prior to subsequent applications soils shall be evaluated using Table 1 or wait a minimum of 7 days.

Surface Texture Class[1]	**Max Application Rate** *gal/acre*		**Allowable Soil Moisture Description for Applications**
	*< 30%**	*≥30%**	
Fine	3000	5000	Easily ribbons out between fingers, has a slick feel.
Medium	5000	7500	Forms a ball, is very pliable, slicks readily with clay.
Coarse	7000	10000	Forms a weak ball, breaks easily.

[1] Fine – clay, silty clay, silty clay loam, clay loam
Medium – sandy clay, sandy clay loam, loam, silt loam, silt
Coarse – loamy sand, sandy loam, sand. This category also includes peat and muck based on their infiltration capacity.

* Crop residue or vegetative cover on the soil surface after manure application.

b. 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 in drainage districts.

(2) Maintain greater than 30% crop residue or vegetative cover on the soil surface after nutrient application.

(3) Incorporate nutrients within 72 hours leaving adequate residue to meet tolerable soil losses.

(4) Establish cover crops promptly following application.

B. Criteria to Minimize Entry of Nutrients to Groundwater

To minimize N leaching to groundwater on *high permeability soils*, or soils with less than 20 inches to bedrock, or soils with less than 12 inches to *apparent water table,* or within 1000 feet of a municipal well, apply the following applicable management practices:

Note: A list of soils with a high potential for N leaching to groundwater is provided in Appendix 1 of the Wisconsin Conservation Planning Technical Note WI-1.

1. Where sources of N are applied:

a. No fall commercial N applications except for establishment of fall-seeded crops. Commercial N application rates, where allowed, shall not exceed 30 pounds of available N per acre.

b. On irrigated fields, including irrigated manure, apply one of the following management strategies:

(1) A split or delayed N application to apply a majority of crop N requirement after crop establishment.

(2) Utilize a nitrification inhibitor with ammonium forms of N.

2. When manure is applied in late summer or fall to meet the fertility needs of next year's crop and soil temperatures are greater than 50°F, apply one of the following options:

a. Use a nitrification inhibitor with liquid manure and limit N rate to 120 pounds available N per acre.

b. Delay applications until after September 15 and limit available N rate to 90 pounds per acre.

c. Apply to fields with perennial crops or fall-seeded crops. N application shall not exceed 120 pounds available N per acre or the crop N requirement, whichever is less.

3. When manure is applied in the fall and soil temperatures are 50°F or less, limit available N from manure application to 120 pounds per acre or the crop N requirement, whichever is less.

Note: The restrictions in B. 2. and 3. do not apply to spring manure applications prior to planting. The balance of the crop N requirements may be applied the following spring or summer.

4. 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 byproducts, 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 resulting in reoccurring gullies.

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 a., or Soil Test Phosphorus Management Strategy found in section b. The single strategy chosen, either a. or b., shall be applied uniformly to all fields within a farm or tract.

Note: First year available N in manure applied to fields prior to legume crop establishment shall not exceed the first year's annual N removal by legumes and companion crop. See Wisconsin Conservation Planning Technical Note WI-1, Part II B.4. Available N applied cannot exceed the N need or legume crop N removal of the next crop to be grown.

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 according to UWEX soil fertility recommendations. 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 consistent with the current crops and management or use the erosion assessment tools included with the Phosphorus Index model. 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. Refer to NRCS FOTG, Section IV, Standard 585, Strip Cropping, and/or Standard 332, Contour Buffer Strip.
- Install/maintain filter strips (NRCS FOTG, Section IV, Standard 393, Filter Strip) along surface waters and concentrated flow channels that empty into surface waters that are within or adjoin areas where manure will be applied.
- Maintain greater than 30% crop residue or vegetative cover on the soil surface after planting.
- Establish fall cover crops.

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: eliminate P applications, if possible, unless required by the highest P demanding crop in the rotation. If applications are necessary, applications shall be 25% less than the cumulative annual crop removal over a maximum rotation length of 8 years.

(4) For land with potatoes in the rotation, total P applications shall not exceed crop removal over a maximum rotation length of 8 years if soil tests are in the optimum, high, or excessively high range for potatoes.

D. Additional Criteria to Minimize N and Particulate Air Emissions

Where air quality is identified in a conservation plan as a resource concern, apply a management strategy that minimizes nutrient volatilization and particulate losses while maintaining tolerable soil erosion levels for wind and water.

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

1. Nutrients shall be applied in such a manner as not to permanently degrade the soil's

structure, chemical properties, or biological condition.

2. To the extent practical, nutrients shall not be applied to flooded or saturated soil when the potential for soil compaction and/or the creation of ruts is high.

VI. Considerations

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

A. Promote seeding and stabilization of concentrated flow channels, installation and maintenance of vegetative filter strips, riparian buffers and other buffer strips 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. Corn nitrogen recommendations in A2809 can be adjusted for the effects of current corn and nitrogen fertilizer prices using the N rate calculator available at http://www.uwex.edu/ces/crops/NComparison.htm. Additional management practices that can be utilized to improve N use efficiency can be found in the Wisconsin Conservation Planning Technical Note WI-1, Part II.

C. Apply nutrients not specifically addressed by this standard (i.e., secondary and micro nutrients) based on recommendations found in UWEX Publication A2809.

Since specific environmental concerns have not been identified for potassium (K), K additions in manure or bio-solids will be determined by rate limits for the N or P in those materials. Commercial fertilizer K applications equal to crop removal will avoid building soil test K levels. K may be applied equal to crop removal at any soil test K level. Dairy producers should monitor K levels in forages and take additional steps to reduce soil K levels if consumption of forage with high K levels becomes an animal health problem.

D. To minimize N leaching on medium and fine-textured soils, avoid fall commercial N applications for crops to be seeded the following spring. When 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. Irrigated fields should use irrigation scheduling strategies with the intent of minimizing leaching losses and improving water use efficiency and not exceeding intake/infiltration capacity of the soil.

F. 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.

G. Consider delaying surface applications of manure or other organic byproducts if precipitation capable of producing runoff is forecast within 24 hours of the time of planned application.

H. Consider modifications to the crop rotation to provide crop fields for the application of manure during the summer crop growing season.

I. Manure top-dressed on existing forages should not exceed the nutrient equivalent of 35 pounds N – 25 pounds P_2O_5 – 80 pounds K_2O (first year availability per acre) or no more than 10 tons of solid manure per acre per harvest. Additional management considerations can be found in "Applying Manure to Alfalfa," North Central Regional Research Report 346.

J. For fields directly adjacent to, or with areas of concentrated or channelized flow that drain directly to, Outstanding, Exceptional or nutrient impaired surface waters, avoid raising soil test P levels to the maximum extent practicable. In addition, implement conservation practices that reduce delivery of nutrients to these waters. For operations using the P-Index in high environmental risk areas, the P-Index values should be reduced to the maximum extent practicable by applying additional conservation practices.

K. Where residual nitrate carryover is probable, the preplant soil nitrate test is recommended to adjust N application rates.

VII. 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 Wisconsin Conservation Planning Technical Note WI-1. Include in a nutrient management plan:

- a soil map and aerial photograph of the site;

- current and planned crops and crop yields; realistic yield goals;
- results of soil, plant, manure, or organic byproduct sample analysis;
- recommended nutrient application rates;
- 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;
- the location of sensitive areas and the resulting nutrient application restrictions;
- guidance for implementation, maintaining records;
- each field's tolerable and actual soil losses;
- soil test P-ppm; P balance, or P Index level where applicable;
- other management activities required by regulation, program requirements, or producer goals;
- a narrative to explain other implementation clarifications.

B. Winter Spreading Plan – The plan shall identify those areas of fields that meet the restrictions for frozen or snow-covered ground identified in this standard. If necessary, land application of manure on frozen and snow-covered ground shall occur on those fields accessible at the time of application that represent the lowest risk of runoff and deliverability to areas of concentrated and channelized flow and surface waters. Low-risk fields shall be identified using either the P-Index or an approved conservation plan. In general, fields most suitable for land application during frozen and snow-covered ground conditions include those fields:

- with low slope,
- with low erosion,
- with high levels of surface roughness,
- with the greatest distance to surface waters and areas of concentrated flow,
- with no drainage to Outstanding/ Exceptional/nutrient impaired water bodies,
- with low delivery potential during active snowmelt.

Refer to section VIII.E for storage/infield stacking of manure during periods of active snowmelt.

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 and byproducts and municipal sludge 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.

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.

F. Plans for Nutrient Management that are elements of a more comprehensive conservation plan shall recognize other requirements of the conservation 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.

VIII. Operation and Maintenance

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 or management, soils, and manure tests.

B. Evaluate the need to modify field operations to reduce the risk of large nutrient losses during a single runoff event based on current field conditions or forecasted weather events.

C. Minimize operator exposure to potentially toxic gases associated with manure, organic wastes, and chemical fertilizers, particularly in enclosed areas. Wear protective clothing appropriate to the material being handled.

D. 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.

E. During periods when land application is not suitable, manure shall be stored in a manure storage facility designed in accordance with the criteria contained in NRCS FOTG Standard 313, Waste Storage Facility. Temporary management of manure shall be in accordance with the criteria for temporary unconfined stacks of manure contained in Table 7 of Standard 313.

F. 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.

G. The application equipment shall be calibrated to achieve the desired application rate.

IX. References

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University of Wisconsin-Extension (UWEX) Publication A3512, Wisconsin's Preplant Soil Profile Nitrate Test, 1990.

University of Wisconsin-Extension (UWEX) Publication A3517, Using Legumes as a Nitrogen Source, September 1997.

University of Wisconsin Extension (UWEX) Publication A3557, Nutrient Management: Practices for Wisconsin Corn Production, September 1994.

University of Wisconsin-Extension (UWEX) Publication A3568, A Step-by-Step Guide to Nutrient Management, May 1992.

University of Wisconsin-Extension (UWEX) Publication A3624, Soil Nitrate Tests for Wisconsin Cropping Systems, 1994.

University of Wisconsin-Extension (UWEX) Publication A3634, Nitrogen Management on Sandy Soils, 1995.

University of Wisconsin-Extension (UWEX), Nitrogen Source and $ Rate of Return Calculator, Rankin, http://www.uwex.edu/ces/crops/NComparison.htm

University of Wisconsin-Extension (UWEX), NPM Program, Know How Much You Haul!, ipcm.wisc.edu.

University of Wisconsin-Extension (UWEX) Publication A3769, Recommended Methods of Manure Analysis, 2003.

University of Wisconsin Soil and Forage Analysis Lab Sampling for plant analysis: http://uwlab.dyndns.org/marshfield/ (Click on Lab procedures and then plant analysis).

Wisconsin Administrative Code, Department of Agriculture, Trade and Consumer Protection, Chapter 48, Drainage Districts.

Wisconsin Phosphorus Index: http://wpindex.soils.wisc.edu/.

X. Definitions

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

Budgeting (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 (VII.A.; Wisconsin Conservation Planning Technical Note WI-1 Part 1 B.d. (1), (2); C.6.).

Concentrated Flow Channel (V.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. This definition may include non-vegetated channels caused by ephemeral erosion. These channels include perennial and intermittent streams, drainage ditches, and drainage ends identified on the NRCS soil survey and not already classified as SWQMAs. Concentrated flow channels are also identifiable as contiguous up-gradient deflections of contour lines on the USGS 1:24,000 scale topographic map. The path of flow to surface water or direct conduits to groundwater must be documented. For construction, refer to NRCS FOTG Standard 412, Grassed Waterway, for more information.

Conservation Plan (V.A.2.b.(2)) - 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 criteria established by the county land conservation committee.

3. Meeting the NRCS TechReg Certified Conservation Planner Option 1, 2, 3.

Direct Conduits to Groundwater (V.A.2.a.(4)) - 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 depressional groundwater recharge areas over shallow fractured bedrock. For the purpose of nutrient management planning, these features will be identified on the 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.

Documented yields (V.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.

Effectively Incorporated (V.A.2.a.(4)) - Means the mixing with the topsoil or residue or subsurface placement of nutrients with topsoil 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.

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 / Pasturing (V.A.1.m.) - 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.

High Permeability Soils (V.B) - Equivalent to drained hydrologic group A that meet 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.

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

Note (V.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.

Permanent Vegetative Buffer (V.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).

Phosphorus Index (PI) (V.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 (V.A.3.a) - Soils where all pore spaces are occupied by water and where any additional inputs of water or liquid wastes cannot infiltrate into the soil.

Surface Water Quality Management Areas (SWQMA) (V.A.2.b.(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 onsite evaluation and documented in an approved conservation plan.

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

Tile Inlet (V.A.2.a.(4)) - The interception of surface runoff within a concentrated flow channel or field depression, by a constructed device designed to direct runoff into an underground tile for conveyance to surface or groundwater.

Tolerable Soil Loss (T) - For sheet and rill erosion (V.A.2.a.(6)) - 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, e-FOTG, Soil Report.

Appendix C

Notice to Adjacent Property Owners

NOTICE TO ADJACENT PROPERTY OWNERS

STATE OF WISCONSIN -- LIVESTOCK FACILITY SITING

Wis. Stats. s. 93.90; Wis. Adm. Code ch. ATCP 51

_____ ("political subdivision") has received an application from _____ ("applicant") to approve a new or expanded livestock facility located at _____.

The applicant has filed the application form and worksheets prescribed by state law. The application form and worksheets describe the proposed facility in detail. They are also designed to document compliance with uniform state livestock facility siting standards, including standards related to:

- Odor management.
- Property line and road setbacks.
- Manure management.
- Manure storage facilities.
- Runoff management.

Copies of the application form and worksheets are on file with the political subdivision, and are open to public inspection. On _____, the political subdivision notified the applicant that the application was complete. Under state law, the political subdivision must normally grant or deny the application within 90 days after that date.

Under state law, the political subdivision must approve the application unless it finds, based on other clear and convincing evidence, that the application fails to meet state standards. The political subdivision may not ordinarily consider other siting criteria, or apply standards that differ from the state standards.

Interested persons may submit comments and information, in writing, by _____. The political subdivision may also hold a public hearing on this matter. If the political subdivision schedules a public hearing, it will publish a hearing notice in the normal manner. You may review the siting application, and submit written comments, at the following address:

_____

_____

_____

An applicant, or a person who resides or owns land within 2 miles of the proposed livestock facility, may appeal the political subdivision's decision to the Wisconsin Livestock Facility Siting Review Board. An appeal, if any, must be filed within 30 days. The Siting Review Board will review the local decision based on state law, and evidence in the local record (the Board will not hold a new hearing or accept new evidence).

On the back side of this notice, you will find a short summary of state livestock facility siting requirements. For more information, you may call _____ or visit the state website at *http://www.datcp.state.wi.us/arm/agriculture/land-water/livestock siting/siting.jsp*.

State Livestock Facility Siting Requirements (For New or Expanded Livestock Operations that Need a Local Permit)

Requirement	Applies to	Provisions
Application and Worksheets	All applicants	• Describes proposed livestock operation in detail. • Shows number of "animal units" (AU) proposed. • Documents compliance with state siting standards.
Odor Management (see worksheet)	Applicants whose livestock operation will be both of the following: • Located within 2500 feet of closest neighbor. • Over 500 AU for new livestock operation or 1000 AU for expansion.	• Odor score must meet state standard. • Odor score depends on predicted odor from livestock structures (varies by structure size and type), odor management practices used, distance to nearest neighbors, and density of neighboring development.
Waste and Nutrient Management (see worksheet)	All applicants	• Shows maximum amount of waste that will be generated (manure and other). • Describes waste management plan, including landspreading and storage if any. • Identifies proposed manure storage and capacity. • Identifies land available for spreading. • Professional checklist shows that waste disposal plan is adequate to handle projected waste, and meets state standards (not required for operations under 500 AU that have adequate land base).
Waste Storage Facilities (see worksheet)	All applicants with manure storage facilities	• New facilities constructed to current state standards. • Existing facilities appear to be safe (no indication of leakage or failure). • Abandoned facilities are properly closed. • Professional evaluation and construction plan.
Runoff Management (see worksheet)	All applicants	• Meet state nonpoint pollution standards. • Control runoff from animal lots and feed storage
Setbacks (see site map)	All applicants	• Meet local setbacks (cannot exceed state maximums of 100 to 200 feet depending on size). • 350 ft. setback for new waste storage. • Existing structures "grandfathered" (can continue and expand, but not toward property line). • Must comply with existing water quality setbacks (wetland, floodplain, well setbacks).
Training and Response Plans	All applicants	• Incident response plan (spills and odor events). • Employee training (manure and odor mgmt.).

Department of Agriculture, Trade and Consumer Protection

Final Draft

Livestock Facility Siting Rule
Environmental Assessment

January 2006

Division Affected: Agricultural Resource Management
Rule Number: ATCP 51, relating to livestock facility siting.

Clearinghouse Rule Number: 05-014

HISTORY AND BACKGROUND

1. ***Rule number and title:*** ATCP 51, relating to livestock facility siting.

   [X] New Rule
   [ ] Modification of Existing Rule

2. ***Statutory Authority***

A. Statutory authority: ss. 93.07(1), 92.05(3)(k), 93.90(2) and 281.16(3)(b), Stats.
B. Statutes interpreted: ss. 92.05(3)(k), 93.90 and 281.16(3)(b), Stats.

3. ***Summarize the history of this proposed rule and the reason the rule was developed:***

The Wisconsin Department of Agriculture, Trade and Consumer Protection ("DATCP") proposes this rule to implement Wisconsin's Siting Law (s. 93.90, Stats., created by 2003 Wis. Act 235). The legislature enacted the Livestock Facility Siting Law ("Siting Law") to provide a more predictable framework for local decisions to approve or deny proposals for new and expanded livestock facilities. The legislation was a response to concerns about the impact of local regulation on the future of the livestock industry. It was designed to remedy both the reality and perception that local decision-making was not timely, was based on standards that were not grounded in sound science, and imposed conditions not specified in ordinances.

State standards are at the core of this new regulatory framework. The Siting Law requires that DATCP develop state standards that political subdivisions must follow if they regulate the siting of new and expanded livestock facilities. To develop the standards, DATCP was required to convene a panel of experts to make recommendations based on the best available science and other considerations. The panel made up of representatives from the private and public sector recommended the following standards to protect water quality and control odors: odor management from facilities and land application of manure, waste and nutrient management, waste storage, runoff control (animal lots, feed storage), and mortality management. The panel

delivered its recommendations in the form of a preliminary draft rule that included an application for local approval and worksheets to demonstrate compliance with the siting standards. The panel's work product was reviewed by the advisory committee that originally developed recommendations for the legislation. The siting standards were incorporated into the hearing draft of the rule that was subject to public hearing.

Subsequent to public hearings, DATCP made changes to the proposed siting standards. The siting standards incorporated in the final draft rule include: odor management, waste and nutrient management, waste storage, and runoff control (animal lots, feed storage). DATCP has made additional changes to rule during the process of legislative review.

4. *Description of this proposed rule*

A. *Objective of proposed rule*

This proposed rule implements the legislative directives to DATCP in the Siting Law. The law requires DATCP to adopt, by rule, standards for siting and expanding livestock facilities. This proposed rule implements the requirement to specify the information that a livestock operator must include when applying for local approval, in order to show that a new or expanded livestock facility will comply with the siting standards adopted. It also specifies the information that a political subdivision must include in its decision making record, as required by the Siting Law.

(1) Environmental Objectives

The primary environmental objective of this proposed rule is to create state standards that protect water quality and control odor. The standards will provide new levels of protection for the environment based on the best available science. In developing these standards, DATCP was required to consider the protection of public and health safety among a set of factors set forth in s. 93.90(2), Stats. The standards will protect water quality by requiring that manure is properly handled, stored and applied to land. The standards will control runoff related to animal lots and feed storage. The runoff protections incorporate these existing standards: clean water diversion from animal lots and other structures, the prohibition against unconfined manure stacks near waterways, restriction on streambank grazing to ensure adequate vegetative cover, overflow prevention from storage structures, and construction site erosion control. The standards will control odor from facilities through odor control practices and separation distances. The rule will also require that new and expanded livestock facilities meet property line and water quality setbacks and that new manure storage facilities meet additional setbacks from roads and property lines.

(2) Programmatic/Administrative Objectives

This proposed rule will establish a predictable, efficient and fair framework for political subdivisions to grant local approvals involving new and expanded livestock facilities. Superimposed over a local regulatory system, this framework creates a rational and uniform siting process while preserving local control in the area of land use planning and zoning. Science-based standards, set at the state level, will provide local officials much-needed guidance

in granting local approvals for livestock facilities. For livestock farmers, the standards will provide greater certainty about the requirements necessary to modernize and expand their operations. With clear deadlines for processing applications, the new law reduces delay and the accompanying uncertainty. Finally, this proposed rule establishes the ground work for the Livestock Facility Siting Review Board ("Board") to conduct its review of local decisions involving new and expanded livestock facilities.

These changes will enable Wisconsin livestock producers to make the necessary investment to remain competitive in an ever-changing agricultural climate. Without modernization and growth, the state will not have enough raw products such as milk to support cheese makers and other processors. The livestock industry is extremely important to the Wisconsin economy, contributing 51.5 billion annually and supporting 426,000 jobs.

B. Summarize the key assumptions on which this proposed rule is based:

This proposed rule is based on these assumptions:

- Political subdivisions play a central function in land use planning and zoning, and this role must be preserved.
- Local facility siting decisions can be improved by uniform state standards formulated based on considerations such as practicality and protection of public health and safety.
- Science-based standards developed with input from a technical panel can effectively protect water quality and reduce odor.
- To protect public health and safety, political subdivisions may need to apply unique standards when making local decisions, but these need to be specified in ordinances.
- Applicants seeking approval for facility siting or expansion receive fairer treatment if local decision-making authority is limited to state standards and conditions specified in ordinances.
- Delays and uncertainty in local decision-making burden applicants seeking local approval, and create disincentives to invest in modern livestock operations.
- An adequate decision making record is essential to review local decisions to grant or deny approval.
- The creation of a review board provides a less costly and effective means to ensure that political subdivisions properly apply state siting standards.

C. Provide a summary of procedures required by this proposed rule:

(1) Requirements the public will have to follow:

For livestock operations located in the jurisdictions that regulate livestock facility siting, this proposed rule requires that livestock operations meet state standards when they plan to build or expand livestock facilities. While these requirements generally apply to new and expanded livestock facilities over 500 animal units, smaller facilities may be required to comply if the local ordinance contains a lower threshold for regulation that is "grandfathered" into law. An applicant demonstrates compliance with state and local standards specified in the ordinance by completing

a DATCP-approved application and worksheets. Applicants must complete worksheets to show:

- the maximum number of animals of each type that will be housed at the proposed livestock facility for at least 90 days during any 12-month period.
- odor control practices and separation distance used to manage odor from the production area (animal housing, waste storage, and animal lots) for any livestock facility within 2,500 feet of an affected neighbor if it is a new facility for 500 or more animal units or an expanded facility for 1000 or more animal units.
- compliance with all property line, road and water quality setbacks.
- the amount of manure and related waste the facility will generate annually, the maximum amount of storage to hold this waste, the total annual amount of manure and other waste that the applicant proposes to apply to land, the land base needed to spread this waste, and the land base available for spreading.
- a checklist demonstrating nutrient management planning if the proposed facility is 500 or more animal units or does not have an adequate land base available for spreading.
- compliance of new, substantially altered and existing waste storage facilities with standards to prevent overflow and leaks
- compliance with new, substantially altered and existing animal lots and feed storage structures with standards to control runoff and discharges to groundwater.
- the applicant is aware of other laws, listed in the attachment, that may apply to livestock facilities (vehicle weight limits, chemical bulk storage laws, etc.).

As part of the application, the applicant must submit two required plans covering training and incident response, and has the option to submit an advanced odor management plan. Also the applicant must include information necessary to demonstrate compliance with any local requirements in the ordinance necessary to protect public health and safety.

By submitting a complete application that demonstrates compliance, the applicant shifts the burden to the political subdivision to show why the proposed facility does not meet standards and should not be approved. The political subdivision must grant a local approval if there is not sufficient evidence in the record to rebut the presumption of compliance for the standards created by a completed application.

The applicant for local approval and others who meet the law's definition of "aggrieved" parties have the option to seek review of a local decision before the Livestock Facility Siting Review Board ("Board"). An aggrieved party has 30 days to appeal a local decision. The aggrieved person may challenge the local decision on the grounds the political subdivision incorrectly applied DATCP standards or violated the Siting Law. The Board has 60 days to review the local decision based on the evidence in the local record (the Board will not hold a new hearing or accept new evidence). An aggrieved person or the political subdivision may appeal the Board's decision to circuit court.

Once issued, a permit authorizes the applicant to house the number of animal units requested in the application unless another number is used. Once an application is approved, the operator may not exceed the authorized number without another local approval. Local approval is

conditioned on continued compliance with required standards, and representations made in the application for local approval.

(2) Requirements counties and other political subdivisions will have to follow:

The Siting Law does not mandate that a county, town or other political subdivision adopt a permit, license or similar approval for new and expanded facilities. Political subdivisions that elect not to regulate in this area are not subject to the siting standards and decision making procedures in this proposed rule. Even if they do not require local approval of new and expanded livestock facilities, political subdivisions may use planning and zoning tools to control future development and land uses including new and expanded livestock facilities. Whether or not they require local approval for new and expanded livestock facilities, political subdivisions may independently regulate livestock facilities by adopting ordinances under authority related to shoreland zoning, floodplain zoning, construction site erosion control or stormwater management.

If a political subdivision elects to use a permit or similar approval to regulate new and expanded livestock facilities, they must conform with rule requirements related to the standards. First, it must regulate at a threshold of 500 animal units unless it had a local ordinance in place as of July 19, 2003 with a lower threshold. If a political subdivision does not have an ordinance that meets the "grandfathering" requirement, it may *not* require a zoning or other approval for a livestock facility smaller than 500 animal units in any agricultural use district or unzoned area. Second, local approval decisions must be based on siting standards in this proposed rule. Additionally, a political subdivision may not disapprove a proposed livestock facility based on the standards in this rule unless it incorporates the standards in its local ordinance. A political subdivision may not apply more stringent standards unless those standards are necessary to protect public health or safety, are based on reasonable and scientifically defensible findings of fact, and are incorporated in the local ordinance prior to the date of the siting application. The findings must clearly show that the standards are necessary to protect public health or safety. A political subdivision must provide copies of ordinance provisions regulating livestock siting.

Third, a political subdivision must use the DATCP approved application and worksheets in making its decision to approve or deny a new or expanded livestock facility. It may modify the application to require additional information that is necessary to show compliance with local ordinance standards that are allowed under the Siting Law. Applicants can be charged a reasonable fee to cover local government costs not to exceed $1000, but they cannot be required to post bonds or provide other proof of financial responsibility. If a waste storage facility is abandoned or not properly closed, however, a political subdivision retains the authority to seek redress under s. 66.0627 or 254.59, Stats., as appropriate.

Fourth, a political subdivision must follow procedural requirements for reviewing the application and making its decision. Within 45 days after it receives an application for local approval, a political subdivision must determine whether the application is complete and notify the applicant. A political subdivision must notify adjacent landowners that it has a completed application. Once the application is complete, a political subdivision is required to make its decision within 90

days, unless it extends the deadline for good cause. If the application contains the information required by DATCP rules, and credibly demonstrates compliance with the standards for approval, the political subdivision must approve the application unless it finds, based on other clear and convincing evidence in the record, that the application fails to meet the standards.

Fifth, a political subdivision must make its decision based on written findings of fact that are supported by evidence in the record. This written decision must be part of the records maintained by the political subdivision. The record of decision making includes the application for local approval, a record of any public hearing (public hearing requirements, if any, are determined by local law), and copies of other documents received or issued in connection with the application. A political subdivision must provide notice of its decision to DATCP. If it issues a permit, a political subdivision must include a map marked "approved."

A local decision may be challenged by aggrieved parties by filing an appeal. In addition to traditional appeals to courts, aggrieved parties may file an appeal with the Board. The Board's decision is binding on the political subdivision (once any court appeal of the decision is completed, or the appeal time lapses). If the political subdivision fails to comply with the Board's decision, an aggrieved person may bring a court action to enforce the Board's decision.

(3) Requirements DATCP will have to follow:

DATCP is required to develop and maintain standards for siting new and expanded livestock facilities. The standards may incorporate, and may not conflict with, current regulations related to nonpoint source pollution from farms. In developing standards, DATCP was required to consult with a panel of experts. During the development process, DATCP and the panel had to consider whether the standards were (1) protective of public health or safety; (2) practical and workable; (3) cost-effective; (4) objective; (5) based on scientific information; (6) designed to promote the growth and viability of animal agriculture; (7) designed to balance the economic viability of farm operations with natural resource protection and other community interests; and (8) and usable by local officials. DATCP has met these requirements in preparing this proposed rule.

In addition to reviewing the standards every 4 years, DATCP will track local siting applications and decisions, reviewing that information at least monthly during the first year of rule implementation. DATCP will consider information that a political subdivision must provide; namely, copies of completed applications for local approval and changes to local ordinances. DATCP may propose amendments to this rule, as appropriate, based on its review of rule implementation and research findings. DATCP will provide education and technical assistance to political subdivisions, farmers and other stakeholders to ensure proper application of the rule. DATCP will work with DNR and others to coordinate state programs related to odor management and air emissions. During the initial implementation period of the rule, DATCP will manage these responsibilities, some of which were added as result of legislative review, by using existing staff.

To ensure consistent implementation of the siting standards, DATCP must specify the information that a livestock operator must include when applying for local approval, in order to

show that a new or expanded livestock facility will comply with the siting standards. This will be accomplished by mandating the use of a department-approved application and worksheets.

Through rulemaking, DATCP must specify the information that a political subdivision must include in its decision making record. A local decision must include findings of fact, and must be based on information in the record. This record will be important if an aggrieved party appeals the political subdivision's decision.

The Siting Law attaches the Board to DATCP for administrative purposes. DATCP must provide staff to coordinate the meetings of the Board, advise the Board on legal matters and prepare decisions and other official documents.

D. Identify and explain implicit or explicit exemptions to this proposed rule and explain why they are exempt (e.g., what similar activities or entities would not be affected):

This proposed rule does not cover farmers seeking to site or expand livestock facilities in jurisdictions that do not regulate this activity. These farmers are exempt because the law is designed as an overlay to existing and future local regulation of livestock siting. If no local regulation exists, there is no mechanism to implement the new state siting standards. Farmers in jurisdictions that do not regulate siting are still subject to other legal requirements including compliance with state agricultural performance standards and WPDES permits issued by DNR for facilities over 1000 animal units.

This proposed rule interprets the Siting Law to apply only to domestic animals traditionally used in this state in the production of food, fiber or other animal products. It covers livestock facilities that raise cattle, swine, poultry, sheep and goats. It does not apply to facilities that keep only horses, bison, farm-raised deer, fish, captive game birds, ratites (such as ostriches or emus), camelids (such as llamas or alpacas) or mink.

Consistent with the law's intent to preserve local authority, this proposed rule recognizes local authority to regulate proposed livestock facility siting or expansion on the following grounds:

- The site is located in a non-agricultural zoning district.
- The site is located in an agricultural zoning district that prohibits the livestock facility (as long as the specific requirements in the law are met).
- The site fails to meet separate health and safety standards specified in a local ordinance.
- The proposed livestock facility violates a local ordinance properly adopted under a state law related to shoreland zoning, floodplain zoning, construction site erosion control or stormwater.
- The proposed livestock facility violates a building, electrical or plumbing code that is consistent with the state building, electrical or plumbing code for that type of facility.

In similar vein, this proposed rule recognizes local power to regulate new and expanded livestock facilities smaller than 500 animal units in certain cases. Under the Siting Law, political subdivisions may impose a lower permit threshold as long as this threshold was adopted by local ordinance prior to July 19, 2003. This approach is consistent with the law's function as an

overlay to local authority. However, this proposed rule excludes proposed facilities smaller than 500 animal units from specific requirements related to nutrient management and odor control. Limiting application of the standards in these cases is consistent with the technical panel's recommendations for standards designed primarily for adoption by facilities of 500 or more animal units, and recognizes the economic reality facing smaller facilities that are forced to comply with a broad range of standards. By exempting expanding facilities less than 1000 animal units from the odor management standard, this rule recognizes the unique burdens facing operations that have not made the leap to permitted status under the WPDES program. Also operations under 1000 animal units do not generate the level of odor that has created the most significant livestock siting controversies.

This proposed rule incorporates and interprets the limitation of the Siting Law regarding treatment of an existing facility. Generally speaking, a local ordinance may *not* require a permit for a livestock facility that already exists on the effective date of the ordinance, but may require a permit for future expansions to the extent allowed under the rule. Normal seasonal fluctuations in animal numbers to not constitute an "expansion" (the rule provides specifics).

This proposed rule does not affirmatively mandate cost-sharing for applicants who might otherwise be entitled to cost-sharing under ATCP 50 if they are required to change an existing facility to comply with state agricultural performance standards. Under ss. 92.07(2), 92.105(1), 92.15(4), 93.90(3)(d) and 281.16(3)(e), Stats., and ss. ATCP 50.08 and NR 151.095(5)(b), Wis. Adm. Code, a political subdivision must normally offer cost-sharing if it *requires* an operator to install conservation practices at an existing livestock facility that is otherwise unchanged. This proposed rule does not require an offer of cost-sharing for a new or expanded facility, even if the operator must install conservation practices to obtain a local permit for that facility. However, the political subdivision *may* offer cost-sharing to a permit applicant, if the political subdivision is able and willing to do so.

5. Specifically identify those governmental units, industries, organizations, and other parties that would be affected by this proposed rule. Explain how each would be affected:

Town, county or other political subdivisions. This proposed rule affects only political subdivisions that voluntarily elect to regulate livestock facility siting through conditional use permits, licenses and other forms of approval. They must meet new requirements on top of the basic permitting steps previously imposed on applicants for local approval. They may encounter new costs to process applications in a timely manner and prepare a more extensive record of decision making. There may be peripheral impact on the workload of county conservation staff who will be critical local resources to provide technical assistance in implementing the siting standards.

See Section 10 B of this assessment and the Fiscal Impact Estimate for a more extensive analysis of costs that political subdivisions may incur as a result of this proposed rule. The most recent changes to the rule, including required notification of adjacent landowners, clarifications involving permitting procedures (e.g. duration of permits) and retention of the $1,000 fee cap, do not warrant a revision of the Fiscal Impact Estimate.

Livestock Farmers. This proposed rule affects only a small subset of farmers who plan new and expanded livestock facilities in jurisdictions that require a local permit, license or approval for such activity. As indicated in the Fiscal Impact Estimate, DATCP estimates that 50-70 proposed facilities each year will be covered by the new law. All livestock farmers will benefit from the new law and DATCP's implementing regulations which will enhance the business climate for new and expanded livestock facilities. When implemented, the law will create a predictable, more fair approval process with clear deadlines for local decisions. It provides an alternative to courts to seek less costly and timelier review of local approval decisions. However, this proposed rule may add additional costs for those new and expanded livestock facilities that must obtain local approval. For example, applicants for local approve may need to spend more for engineering review of existing structures and installation of measures to control odors. However, added costs may be offset by savings created by the new law. For example, applicants may have lower attorney fees and compliance costs related to unanticipated requirements imposed after a complete application is submitted. For many farmers, the cost of preparing and following a nutrient management plan may be offset by the savings a farmer realizes in lower costs for purchased fertilizers.

See Business Impact Analysis for a more extensive analysis of costs for livestock farmers and the other affected businesses described below. Many of the most recent changes to the rule, including special treatment for separate species facilities, refinements to the odor standard (e.g. elimination of the predicted odor cap), and modifications of setback requirements, are designed to benefit livestock producers, but do not warrant a revision of the Business Impact Analysis.

Crop consultants, farm cooperatives, farm supply organizations, and manure-haulers
This proposed rule will marginally increase the demand for professional nutrient management planning and other related services provided to the small group of livestock farmers covered by the law. This rule will increase demand for manure hauling services. The small group of affected farmers will have greater transportation requirements to meet new requirements of a P-based nutrient management plan. There will be demand for new services delivered by trained professionals particularly in the area of odor management.

Construction contractors: This proposed rule will may have a small effect on demand for construction services.

Agricultural engineering practitioners: This proposed rule may marginally increase demand for agricultural engineers and engineering practitioners. Operators of new and expanded livestock facilities will require installation of structures and practices designed by licensed engineers or certified engineering practitioners. Operators of expanded facilities will need engineering expertise to demonstrate that existing structures meet technical standards and to design modifications for structures to bring them into compliance.

Lenders: This proposed rule will benefit lenders working with livestock facilities that are subject to local regulation of new and expanded livestock facilities. Lenders will have greater assurance that new and expanding operations will be able to secure necessary local permits. They also will

have greater security on their farm loans because livestock operations will meet standards that avoid nuisance complaints based on odor and protect water resources.

6. List agencies, groups, and individuals contacted regarding this proposed rule.

As required by law, DATCP convened a technical panel to provide recommendations concerning the state siting standards. The panel included university researchers, government experts, conservation officials, and private consultants. Experts were recruited from DATCP, the Department of Natural Resources, and the Natural Resource Conservation Service (NRCS). The panel had expertise in barnyard runoff control, feed storage, manure storage facilities, nutrient management, and odor management. The work of the panel was enhanced by the participation of an expert from Minnesota who provided information about state of the art methods for odor management. The panel met from June to October 2004 to prepare its recommendations which were presented to DATCP in the form of a preliminary draft rule which included an application for approval and worksheets.

DATCP brought together the Livestock Facility Siting Advisory Committee in November and December 2004 to review the expert panel's recommendations. The 21-member advisory committee was first convened to provide recommendations regarding reform of the local approval process for new and expanded livestock facilities. The advisory committee was selected to represent the diverse interests of those affected by the issue of livestock facility siting. The town and county associations as well as zoning and conservation staff represented the interests of political subdivisions. Farmers and representatives from the key farm organizations served on the committee. Committee members were appointed who could advance environmental interests. The committee also had staff from government agencies and university educators with stake in this issue.

As part of its deliberations on the preliminary draft of the rule, the advisory committee solicited input from farm groups, environmentalists and others to fully understand the impact of the new standards and other rule requirements. Rule provisions were modified to address the concerns of different interest groups including farm groups and local government organizations. DATCP conducted field trials to validate and modify the odor standard. Further rule modifications were made in response to comments from stakeholders during legislative review of the rule.

7. List the existing administrative code (affected or replaced by this proposed rule):

A new ch. ATCP 51, Wis. Adm. Code, is created through this proposed rule.

8. List department directives and/or publications this proposed rule would affect. Specify changes necessary if this proposed rule is adopted.

This proposed rule requires that DATCP coordinate revision of the nutrient management standard to ensure that the new siting standards incorporate the latest nutrient management standard. DATCP worked with NRCS, DNR and others to revise the NRCS technical standard 590 to better address phosphorous management. As the state agency responsible for nutrient

management, DATCP is preparing to revise ATCP 50 to incorporate the new NRCS 590 standard and to make other changes to advance the state of nutrient management.

Administered in accordance with agency directives, the land and water resource bureau within DATCP oversees and operates a number of programs that may be impacted by the new law. Under the Farmland Preservation Program, political subdivisions must submit changes to exclusive agricultural zoning (EAZ) ordinances for approval by DATCP and the Land and Water Conservation Board. Political subdivisions may revise their EAZ ordinances to incorporate the siting standards and make other changes in response to the new siting law. The bureau is responsible for reviewing and in certain cases approving local ordinances that regulate manure storage and other agricultural activities. Political subdivisions are likely to seek more assistance from the bureau to review and comment on existing and proposed ordinances that may be impacted by the new law. The bureau manages a grants program that provides counties with cost-share dollars for voluntary installation of conservation practices. DATCP will review its policies and procedures to ensure that bureau programs provide maximum practical support for the implementation of the new rules for livestock facility siting.

DATCP has published two planning guides to assist political subdivisions and others in developing sound policies and programs to promote agriculture. One guide focuses on agriculture planning with a section on livestock agriculture. The other guide focuses on local planning and regulation of livestock facilities. These two publications will be reviewed to determine their continued usefulness in light of the new law. DATCP will consider revision and republication of these materials.

9. If a specific physical and/or biological setting would be directly affected by this proposed rule, briefly describe the type and extent to the affected area:

This proposed rule affects a small group of new and expanded livestock facilities (50 to 70 per year) that are subject to local permits or other similar approval process. The geographic areas where the law will apply are not necessarily characterized by particular physical or biological conditions. However, some local regulation may be adopted to safeguard environmentally sensitive or vulnerable areas. It is uniformly the case that the areas with local livestock regulation are primarily rural landscapes composed of farmland, non-farm houses and natural areas. This proposed rule will ensure that livestock operations grow and modernize in ways that protect the environment in these areas. With its emphasis on water quality protection, the new siting standards will afford significant protection to surface water and areas susceptible to groundwater pollution.

CONSEQUENCES

10. Beneficial and adverse environmental impacts of this proposed rule:

A. Identify and briefly describe anticipated direct and indirect impacts on the physical and biological environment:

Direct Effects

Even though a limited number of livestock facilities are covered, this proposed rule will positively affect the physical and biological environment in the short- and long-term. As recommended by the expert panel and later modified by the advisory committee and DATCP, the siting standards protect air and water quality from the impacts of livestock facilities that are not properly designed, constructed and operated. Unregulated facilities may pose risks to surface water from improperly applied manure, runoff from animal lots and feed storage, and overflowing waste storage facilities. They also may create groundwater risks as a result of leaking waste storage facilities, and runoff that finds its way to sinkholes and other groundwater conduits. Potential sources of pollution include nutrients (phosphorus and nitrogen), bacteria, sediment and organic matter. The biological environment of a waterbody can be impaired by organic matter that can drastically reduce dissolved oxygen levels, nutrient loads that can result in eutrophication, or high ammonia concentrations that can be lethal to aquatic species.

The siting standards also minimize adverse impacts on air quality from new and expanded livestock facilities. Objectionable odors may be generated by livestock housing, waste storage areas, lagoons. While offensive odors may rise to the level of a nuisance, they are distinct from air pollutants such as ammonia and hydrogen that have been linked to public health concerns.[1] Regulation of air pollutants is not the direct focus of the siting standards.

Applicants for local approval must meet siting standards by demonstrating compliance with the following requirements designed to protect water quality. Applicants are required to meet existing water quality setbacks in local shoreland, wetland and floodplain ordinances, and state well protection codes. They must document that they have adequate land to apply the manure they generate. Facilities of 500 or more animal units or those without an adequate land base must complete a checklist that demonstrates that they can manage nutrients in accordance with technical standards. As part of this checklist, applicants must use soil test results or other values to determine manure applications.

Applicants must show that all waste storage structures can operate without risk of failure or discharges. For new and substantially altered waste storage structures, applicants must design and construct these structures according to NRCS technical standards 313 and 634. Applicants

[1] University of Iowa Environmental Health Sciences Research Center. 2002. Iowa concentrated animal feeding operation air quality study, available at http://www.public-health.uiowa.edu/ehsrc/CAFOstudy.htm

must evaluate existing facilities to establish that these facilities can operate without risk of failure or discharges. Where appropriate, they also must close storage structures according to NRCS standard 360. Applicants are required to show that they have storage capacity adequate to meet their needs based on anticipated waste the facility will generate.

Applicants must control runoff from animal lots by meeting NRCS technical standard 635 for new and substantially altered lots. They must evaluate existing facilities using the BARNY model to show acceptable phosphorous runoff. A higher level of control is required if a lot is near surface water. No lot can have discharges to sinkholes or other conduits to groundwater. For buildings, bunkers and paved areas used to store high moisture feed, applicants must divert clean water from the structure, and collect and treat leachate. New and substantially altered structures must be built at least 3 feet above groundwater and bedrock. If the structure covers more than 10,000 square feet, it must have a system to collect leachate that may leak through the floor of the structure (if the floor cracks, for example).

The siting standards require livestock operators to follow certain practices near waterways: divert clean water from animal lots and other structures, not maintain unconfined manure stacks near waterways, prevent overflow from waste storage, restrict grazing on streambanks to ensure adequate vegetative cover.

The siting standards require that applicants manage odor from the production area of facilities. They must meet a setback requirement for newly-constructed manure storage structures. If an applicant proposes a new facility of 500 or more animal units or expanded facility of 1000 or more animal units(and has a neighbor within 2500 feet), the applicant must demonstrate that the proposed production facilities (animal housing, animal lots and waste storage) will have acceptable odor levels. Odors levels are predicted using a model that considers predicted odor generated, practices used to reduce odor, and distance between the farm structures and neighbors. The first step in the model requires that the applicant calculate the facility's odor generation based on the size of proposed structures. The applicant may need to implement odor control practices to reduce odor if the facility does not have adequate separation distance from its neighbors.

It is worth noting that the control of odors may be effective in controlling air pollutants such as ammonia and hydrogen sulfide. For example, permeable covers also reduce ammonia emissions from manure storage structures. Likewise biofilters installed to reduce odors from housing can significantly reduce hydrogen sulfide and ammonia emissions.[2] Practices such as incorporation and injection can reduce emissions of ammonia. However, in some cases, other practices such as composting may increase volatilization of ammonia. DATCP will work to coordinate odor and air emissions field research with DNR, the Wisconsin agricultural stewardship initiative (WASI), and the University of Wisconsin.

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[2] Jacobson, L. et al. 1998. Odor Control For Animal Agriculture, BAEU-17, available at http://www.bae.umn.edu/extens/aeu/baeu17.html

This rule will protect the environment by establishing clear environmental protection standards for new and expanded livestock facilities that require local approval. The modifications to the odor standard prepared in response to legislative review do change the rule's basic framework including the basic principle of accountability. It also will ensure that applicants for local approval are aware of other environmental laws that may apply, even though those laws are not incorporated as standards for local approval under this rule (other compliance and enforcement mechanisms apply).

Indirect Effects

Installed conservation practices not only improve resources in the immediate area, but resources located "downstream" from these areas benefit indirectly to the extent that runoff pollution is reduced. In areas where practices have been installed to control odor, down-wind areas will benefit from lower odor levels. Installed practices may have secondary benefits at a particular facility site. For example, a farmer who better utilizes manure as part of a nutrient management plan will build soil quality in farm fields and will apply less chemical fertilizers.

New or expanded livestock facilities will typically include new or substantially altered structures. Construction activities and operation of structures may create secondary impacts with potentially adverse impacts on the environment. Through proper evaluation of site conditions and conservation options, a livestock operator and conservation professional can select appropriate practices to reduce the potential for negative impacts. For example, locating waste storage away from surface water can reduce the impact of manure overflows or spills. To a large degree, the siting standards incorporate requirements that seek to mitigate these impacts. Adverse environmental impacts may result from improper design and installation of practices. The siting standards require that an engineer or practitioner verify that structures are designed according to established technical standards, and that applicants follow those designs during construction. This proposed rule also better enables political subdivisions to monitor compliance and take enforcement actions.

In rare cases, certain negative impacts are unavoidable. Unusual storm events can cause manure runoff from the best-designed animal lots. By virtue of its construction, a new lot produces runoff risks that would not exist if the facility were never built. Larger manure storage structures required for expanded livestock facilities may increase the risk of catastrophic events such as a large manure spill. Proper design, construction, and maintenance reduce these risks. Local enforcement combined with state regulation of facilities over 1000 animal units can further reduce the risks associated with these potential events.

On balance, the new standards will have positive benefits as they will require that new and expanded livestock operations be built and operated properly.

Cumulative Effects

It is difficult to gauge the cumulative effects of compliance with the siting standards. Each year

the number of facilities affected by the siting standards is a fraction of the livestock operations in the state. In addition, these livestock operations may be covered by other regulatory and cost-sharing programs. DATCP and DNR offer grants to counties and others to install conservation practices on farms. NRCS provides funds for cost-sharing conservation practices through programs such as the Environmental Quality Incentives Program. The advent of new programs such as the Conservation Security Program (CSP) is increasing the funding for conservation. CSP is designed to reward the best conservation stewards in the most environmentally sensitive areas, promising new levels of environmental performance. CSP and other green payments are likely to grow in the future, replacing farm subsidy programs as the means to support famers.

In the complex interaction of conservation programs, the siting standards will make targeted but important contributions to the overall quality of the environment. As with any environmental program, these contributions will not be fully realized in the immediate future. Longer, indirect effects will be improvements to habitat, increased populations of desirable fish species, increased water clarity, a more balanced aquatic ecosystem, and protection of groundwater resources.

B. Identify and briefly describe anticipated direct and indirect economic impacts. Attach a copy of the administrative rule, fiscal estimate, and fiscal estimate worksheet.

(1) Overview

This proposed rule is designed to implement the Siting Law. This legislation creates a new legal framework that will be superimposed on zoning and other local ordinances for the purpose of reducing the regulatory burdens on farmers seeking to site and expand livestock facilities. This new law is a response to a patchwork of local ordinances that may apply unreasonable standards, unfairly impose conditions on applicants, and authorize procedures that result in unnecessarily delay. Unpredictable, time-consuming and costly local regulations impose barriers to the siting and expansion of livestock facilities. By correcting the shortcomings of local regulation, the new law and the implementing regulations should provide a more conducive environment for modernization of existing facilities and construction of new facilities. This growth provides the milk and other raw products required by processors who do business in this state. The failure to expand the supply of raw products may result in the loss of the processing capacity in this state.

(2) Cost to political subdivision operations:

DATCP estimates implementation of this proposed rule will have some impact on political subdivisions. Political subdivisions have the option to regulate livestock facility siting, and if they assume this responsibility they may incur basic costs associated with administering regulatory programs. They must process permit applications according to specific timelines, conduct hearings as required, develop and maintain files for each application, deny and or approve permits based on standards, and monitor compliance with permits. For those political subdivisions that voluntary regulate, they may encounter new costs to implement the standards and procedures required under the siting law. For example, the required application and worksheets may involve more paperwork than applications previously used by political subdivisions. Political subdivisions may recover costs through fees charged to applicants for

local approval but this proposed rule caps the fees that may be charged. Siting standards benefit political subdivisions by providing scientifically-based criteria to evaluate proposed livestock facilities. For more detailed cost analysis, see the attached Fiscal Impact Estimate for this proposed rule. The most recent changes to the rule, including required notification of adjacent landowners, clarifications involving permitting procedures (e.g. duration of permits) and retention of the $1,000 fee cap, do not warrant a revision of the Fiscal Impact Estimate.

(3) Impact on state and local economies:

This proposed rule is designed to remove impediments to modernization and expansion of the livestock industry. An improved climate for growth in the industry will make the state more competitive, and provide opportunities to grow the state's economy. New or expanded livestock facilities may have different impacts on local economies. In nearly every area where local approval is required, there will be increased demand for land to spread manure. There will be slightly increased demand for goods and services necessary implement the siting standards. This will benefit businesses who meet these needs. As the livestock industry changes and facilities increase in size, there are certain impacts that are independent of whether the local jurisdiction regulates livestock facility siting. In some areas, larger facilities may purchase feeder livestock, feed and other supplies from local sellers. In other areas, larger facilities may bypass local venders. Larger facilities create employment opportunities, offering positions that pay above the minimum wage. This new workforce can be expected to spend earnings at businesses where the facilities are located. A more detailed discussion of these benefits is provided in the Business Impact Analysis. The most recent changes to the rule, including special treatment of separate species facilities, refinements to the odor standard (e.g. elimination of the predicted odor cap), and modifications of setback requirements, do not warrant a revision of the Business Impact Analysis.

(4) Economic impact on individuals:

(a) Cost analysis. A very small group of farmers is subject to this proposed rule; operators who voluntarily decide to build new or expanded livestock facilities but only if they are subject to local approval requirements. Those farmers subject to local siting regulation may incur higher costs to comply with the standards. The new legal framework for local approval provides benefits that may offset these costs. The Business Impact Analysis provides a detailed discussion of the costs. The most recent changes to the rule, including special treatment of separate species facilities, refinements to the odor standard (e.g. elimination of the predicted odor cap), and modifications of setback requirements, do not warrant a revision of the Business Impact Analysis.

(b) Requirements of the rule. This proposed rule requires that livestock producers meet siting standards for new and expanded livestock facilities if they are subject to local approval requirements. Applicants may also need to meet local requirements in ordinances necessary to protect public health and safety. They may receive cost-sharing to comply with approval requirements, but are not entitled to cost-sharing (see ATCP 50 and NR 151, Wis. Admin. Code) They will need to follow specified procedures for submitting an application for local approval,

including the use of approved forms and worksheets. Section 10 A discusses the standards livestock operators must meet if they are subject to local approval requirements.

(c) Conclusions. Given the requirements of the rule presented above and the assumptions and estimates from the cost analysis, the following conclusions can be drawn:

The costs for implementing state standards are incremental. Currently operators subject to local regulation incur costs to receive local approval. Any increase in costs must be considered in light of the benefits of the law. These benefits include reduced legal fees, more certainty about the application process, and no surprise costs for compliance. In end, livestock operators will have a more favorable climate to build and modernize, allowing them to make business decisions based on legitimate concerns such as lifestyle choices and greater profitability.

C. Identify and briefly describe anticipated direct and indirect impacts on the social and cultural environment (lifestyle) of the parties affected by the proposal:

Through certain features such as optional and required plans for management, training and emergency response, this proposed rule addresses certain social impacts related to livestock facilities. However, it does not address the full range of potentially negative consequences of new and expanded livestock operations. Without effective local planning and zoning, new and expanded livestock operations may be located in rural areas with growing residential development. These different land uses may create conflict. New landowners who do not farm for a living may be offended by the by-products of animal agriculture such as odor that might otherwise be accepted by farm neighbors. Slower farm machinery may compete with commuters for road space. The siting standards in this proposed rule will reduce impacts from odors and water pollution, but political subdivisions must effectively plan and zone to further reduce sources of potential conflict.

Many social and cultural concerns about livestock operations are reflected in discussions about the impact of new and expanded livestock facilities on neighboring property values. However existing research has not accurately captured or measured the impacts on property values. On the basis of a literature review, a recent Iowa study concluded that too little research and inconsistencies within studies hamper our ability to draw conclusions about the impact of feedlots on property values.[3] While this Iowa study itself found property values were negatively influenced by proximity to livestock facilities, there is contradictory evidence from a Minnesota study that unexpectedly found a "positive proximity effect" for neighboring residential properties - primarily for newer, higher priced homes located away from small towns and nearer feedlots. The authors of this Minnesota study offer some possible explanations for this result such as workers living close to facilities. There is evidence that larger, modern facilities may incorporate design and practices that reduce the impact of odor on property values, while smaller operations

[3] Joseph A. Herriges, Silvia Secchi, Bruce A. Babcock. 2003. *Living with Hogs in Iowa: The Impact of Livestock Facilities on Rural Residential Property Values*. CARD Working Paper #03-WP 342, http://www.econ.iastate.edu/research/webpapers/paper_10683.pdf

are older and may have less effective management systems.

The siting standards address the most significant perceived negative impacts from livestock facility siting. According to a Manitowoc County survey regarding livestock facilities, water quality, manure management and odor were the top three perceived concerns.[4] This rule will protect neighboring land uses by establishing property line and road setbacks. In addition, operators of new and expanded facilities over a certain size are required to achieve acceptable odor from production facilities by using odor control practices and separation from non-affiliated neighbors. To adequately control odor, livestock operators may install a range of practices from windbreaks to manure storage covers. By incorporating water quality setbacks and imposing standards related to waste storage and manure mangement, this proposed rule imposes requirements that will reduce water pollution risks, including the potential for well contamination. Required standards prevent runoff from entering sinkholes, ensure that existing storage structures do not leak, and require application of manure according to plan that minimizes risks to groundwater.

Consistent with the Siting Law, this proposed rule allows local authorities to effectively plan and zone. Communities can use the planning process to map out future land use and development. Comprehensive plans can create separate places for agriculture and rural residential development. They can avoid conflicting land use by controlling residential development in areas dedicated to farming. The law allows political subdivisions to create zoning districts that exclude livestock operations under specific conditions. Political subdivisions can restrict new and expanded facilities in areas zoned for non-agricultural development. Political subdivisions also retain the power to regulate the construction of facilities under the following local laws: shoreland zoning, floodplain zoning, construction site erosion control, stormwater management. Political subdivisions may reject a proposed livestock facility if it violates a local building, electrical or plumbing code that is consistent with the state building, electrical or plumbing code for that type of facility.

Some social and cultural impacts are an outgrowth of larger economic forces driving the livestock industry. This proposed rule does not address issues such as the changing labor force. As family farms grow in size, they need outside labor. The demand for this labor creates opportunities for immigrant workers. Rural communities have little control over these changes and must adapt. The influx of new workers presents challenges but may also revitalize economically moribund areas. These issues are beyond the scope of the legislation and proposed rule, and must be addressed through other local, state and federal programs and policies. While it may help less efficient farms modernize, the law will not resolve concerns related to consolidation of processors and other changes in the industry.

D. Identify and briefly describe anticipated direct and indirect impacts on the availability and use of energy (s.1. 12, Stats.):

This proposed rule will not significantly impact the availability or use of energy. Independent of

[4] Animal agriculture and land use conflicts hit home, Hoard's Dairyman, April 25, 2004, http://www.hoards.com.

this proposed rule, the trend in the industry is toward more concentrated and larger livestock operations. While these new facilities will be more efficient users, they will consume more energy. By requiring more sophisticated odor management, this proposed rule may spur methane digestion and other innovative technologies designed to capture energy from manure.

11. Identify which of the impacts are adverse impacts that cannot be avoided if this proposed rule is implemented:

This proposed rule does not adequately address the conflict created by residential development in areas of prime farmland. Instead it preserves local authority to control this development to avoid conflicts with livestock facilities. For the purposes of odor management, the rule does include a provision that protects the right to expand a permitted facility despite the encroachment of residential development. This provision creates an incentive to impose setbacks that restrict residential development near livestock facilities. In this and other areas, political subdivisions retain responsibility to manage impacts and conflicts. For example, political subdivisions will need to use their authority to protect roads from damage and debris.

This proposed rule will require that livestock operators subject to local approval spend more upfront costs in preparing and submitting a completed application to the approving jurisdiction. They will be required to demonstrate compliance with new standards for odor management and feed storage. They will need expert assistance to show that existing structures can be operated without water quality risks. The burdens may be greater for expansions as opposed to new facilities. Rule modifications (including those made in response to legislative concerns) have reduced these burdens; however, these changes do not fully ameliorate the burdens, which to a certain extent are a necessary consequence of a system designed to create more predictability using state standards. Increased application requirements are unavoidable because the information provided in the application has taken on new legal significance. The new framework creates a presumption of compliance when an operator submits a complete application. While these additional costs may influence business decisions to build new or expanded facilities, individuals can adapt and will have access to financial resources to cover these costs. Since they will be seeking private financing for new and expanded livestock faculties, they can roll cost increases into loans. They also may have opportunities to finance practices with government cost-share grants.

12. Identify irreversible and irretrievable commitments of resources required or implied if this proposed rule is implemented.

None anticipated at this time.

ALTERNATIVES

13. Identify and briefly describe and discuss the environmental and administrative impacts of alternatives to this proposed rule, including the following:

A. Not promulgating this proposed rule (be specific in explaining environmental and programmatic impacts of doing nothing):

Not promulgating this proposed rule would cause DATCP to be in violation of state statutes. DATCP is required to adopt rules to implement the Livestock Siting Law, including standards for new and expanded livestock facilities. Without these rules, there could be significant disruption in the local approval of new and expanded livestock facilities. Political subdivisions that regulate livestock facility siting would be unable to enforce existing ordinances. In such a climate of uncertainty, livestock operators would delay and terminate plans to build new or expanded facilities. From an environmental standpoint, new and expanded facilities would be designed, constructed, and operated without the benefit of science-based standards developed to protect air and water quality.

B. Legislative modification of existing statutes to accomplish the objective of this proposed rule:

This is not a viable alternative because the legislative process is not well-suited to the development of siting standards for new and expanded facilities. The siting standards—the centerpiece of this rule--are technical and complex in nature. They cannot be developed without the input of technical experts working in a collaborative environment to allow resolution of competing considerations. The standards necessary to implement the Siting Law must be thoroughly evaluated, using field testing and other methods to test assumptions. Necessary revisions must be made to reflect the results of the evaluation process. The standards must be periodically reviewed and potentially updated. DATCP has committed to a rigorous process to ensure that rule provisions are reviewed and rule changes are expeditiously made to address concerns. Unlike the legislative process, DATCP rule making has the capacity to effectively address these concerns. Furthermore, the proposed rule provisions are not the type of administrative detail that is typically included in statutes. In fact, the legislation itself reflects a clear intention for the siting standards to be developed through rulemaking. It specifically sets forth the criteria and procedures DATCP must follow in developing the rule.

Having said this, the Legislature may be in position to address issues incidental to the promulgation of siting standards. For example, the Legislature could modify the law's grandfathering provision to further the Siting Law's intent to improve predictability and uniformity in local regulation. The grandfathering provision contributes to a lack of uniformity by allowing political subdivisions to apply siting standards to facilities under 500 animal units if the political subdivision had an ordinance with a lower threshold in effect before July 19, 2003.

C. Modify this proposed rule (alternatives to this proposed rule to satisfy known or obvious concerns of interested parties and the impacts that would result):

Alternatives to this proposed rule include:

Provide more flexibility for livestock operators to meet siting standards. This alternative was suggested during every phase of review of this rule, including legislative review. Farmers and farm groups raised legitimate concerns that the siting standards may unnecessarily hamper efforts to modernize existing facilities and may impose burdensome obligations on facilities smaller than 1000 animal units. DATCP has attempted to accommodate these concerns where appropriate, including recent changes to recognize separate species facilities, refine the odor management requirements, and modify setback requirements. In particular, rule changes have created more flexibility for expanding operations to meet standards. In the area of odor management, this proposed rule recognizes the limitations of existing science and the realities of existing land use patterns. It minimizes duplication between the local approval process and the WPDES permit process. If an applicant for local approval holds a WPDES permit for *the same proposed livestock facility* (and for an equal or greater number of "animal units"), the applicant is exempt from standards under this rule related to waste management and storage, nutrient management and runoff.

However, increased flexibility carried to an extreme means that the siting standards cannot achieve their essential purpose: to ensure approval of proposals that are appropriate for a particular site, and to withhold approval of facilities that cannot be constructed without creating significant risks to air and water quality.

Limit the impact of the "grandfathering" provision that authorizes regulation of smaller facilities. The Siting Law created an exception authorizing local approval for livestock facilities under 500 animal units if the local ordinance has a lower size threshold adopted prior to July 19, 2003. By and large, the siting standards are designed for larger facilities. These facilities also have the resources to implement the standards. Through modifications of the standards, this proposed rule attempts to reduce the impact on smaller facilities. For example, operations under 500 animal units are not uniformly required to prepare a complete nutrient management plan. They demonstrate compliance by showing that they have adequate land to apply wastes generated by the operation. Also, smaller operations are not required to meet the odor management standard. However, by creating a minimum setback for new manure storage structures, this proposed rule ensures neighbors a minimum level of protection.

Include additional standards for new and expanded facilities. The siting standards in this proposed rule are based on the recommendations of an expert panel, as required by s. 93.90(2)(d), Stats. The standards are the product of a panel with expertise in air and water quality. They also reflect a balance of the factors set forth in s. 93.90(2)(b), Stats. Adding standards outside the areas of air and water quality raises challenges and concerns. There may not be adequate science or other justification to support the creation of additional standards. Furthermore, the panel convened by DATCP did not have the expertise to develop these standards in other areas. By adding other standards, this proposed rule might frustrate key factors related to creation of the standards. Additional standards might impose barriers to the growth and viability of animal agriculture, and may create a more cumbersome administrative process

for political subdivisions. However, the Siting Law allows political subdivisions to impose more stringent standards as part of the local approval process if those standards are justified to protect public health and safety, and are included in an ordinance.

Allow political subdivisions more authority to control livestock facility siting. Political subdivisions are concerned that the proposed rule will restrict important areas of regulation necessary to advance local interests. To a large extent, the Siting Law retains considerable local control. The law's limits on local discretion were necessary to create a more predictable and fair framework for local approval. Providing greater authority would compromise the key purpose of the law: to create a standardized process for local approval. Within their allowed authority, political subdivisions have considerable power to respond to key issues such as roads and land use conflicts, as discussed in Section 10C. The law also recognized the power of political subdivisions to create unique standards more stringent than those in the proposed rule if certain conditions are met.

EVALUATION

14. Discuss each category using additional sheets or pertinent information if necessary. Specifically identify those factors which may distinguish this proposed rule as a major action significantly affecting the quality of the human environment.

A. Secondary Effects: To what extent would this proposed rule result in other events or actions which may significantly affect the environment? Identify the parties affected by secondary effects in item 5.

This proposed rule may cause political subdivisions to reduce or eliminate local approval requirements for new and expanded livestock facilities. Because facilities under 500 animal units are exempted from several siting standards, local officials may decide to raise the regulatory threshold in existing ordinances up to 500 animal units. Because of the higher level of local regulation required under this proposed rule, particularly in the area of odor management, some jurisdictions with zoning and other regulation may decide to discontinue regulation of livestock facility siting. If a proposed facility is located in a jurisdiction that raises the threshold for regulation or discontinues local approval entirely, the new or expanded facility may no longer be required to meet siting standards. This may result in new or expanded facilities that generate unacceptable levels of odor, and fail to manage manure in ways that protect water quality. Impacts may be felt by neighbors of these livestock facilities. Natural resources in these areas may be at risk. These potential risks may not materialize for several reasons. State permitting requirements apply to livestock facilities over a 1000 animal units, requiring that these facilities meet water quality standards regardless of local approval requirements. There are other ordinances and legal remedies that may be available to address concerns before they become problems. It should also be noted that this possible outcome will be counterbalanced by political subdivisions that see opportunities in the new law and decide to adopt new ordinances requiring local approval for new and expanded livestock facilities.

To the extent that this proposed rule facilitates the siting of larger livestock operations, it may

create the potential for environmental problems of a larger magnitude than those created by smaller operations. This proposed rule minimizes these risks by requiring compliance with water quality standards. In contrast to the compliance requirements under NR 151 and ACTP 50, livestock operators must comply with siting standards regardless of the availability of cost-sharing.

B. New Environmental Effects: To what extent would this proposed rule result in new physical, biological, or socio-economic impacts?

This proposed rule will not significantly increase new impacts.

C. Geographically Scarce Resources: To what extent would this proposed rule affect existing environmental features that are scarce, either locally or statewide?

Specific scarce resources that this proposed rule would affect are not known at this time. As noted earlier, local regulation determines if the siting standards apply in a particular area. Political subdivisions may adopt local approval requirements for any number of reasons including the protection of scarce resources. Whatever the motive of political subdivisions in enacting livestock facility siting ordinances, applicants cannot obtain required local approval unless their livestock structures meet technical standards designed to protect the environment. Compliance with water and air quality standards may benefit some scarce environmental resources, but we do not know which specific resources may be involved at this time.

D. Precedent: To what extent would this proposed rule establish a new precedent affecting future policy decisions:

This proposed rule sets new precedent for minimum standards for new and expanded livestock facilities. The siting standards may serve as benchmarks for all new and expanded livestock facilities, even if these facilities are not subject to local regulation. The standard related to odor management may be used to resolve nuisance complaints. In large measure, this proposed rule incorporates or builds on existing water quality standards for manure storage and other aspects of a livestock operation. The standards may affect the interpretation of the NR 151 agricultural performance standards as applied to existing facilities.

This proposed rule will influence the regulatory choices of counties and other political subdivisions. The proposed rule may cause political subdivisions to evaluate and revise their regulatory approaches related to livestock facilities. The standards in the proposed rule will shape the interpretation and application of manure storage and other ordinances that regulate livestock facilities. See 14A above for a more detailed discussion of this point.

Counties and other political subdivisions may reexamine and revise their policies and procedures regarding cost-share offers to farmers. They may, but do not have to, offer livestock operators cost-share dollars to meet the siting standards. Affected governments may revise programs and policies to facilitate this cost-sharing.

E. Consistency with Plans: To what extent is this proposed rule consistent or inconsistent with local, state, or national long-range plans or policies?

This proposed rule is consistent with the legislative directives in ch. 93, Stats., and with DATCP's mission statement.

To DATCP's knowledge, this proposed rule is consistent with other plans and policies that have been proposed or adopted by local, state, and national agencies and groups. For example, the rule is consistent with new program directions for nutrient management being developed at the federal level. By incorporating state agricultural performance standards, this proposed rule is consistent with the policy directions for the control of agricultural runoff and protection of groundwater. This proposed rule is consistent with state economic development plans such as Grow Wisconsin. It also is compatible with "Smart Growth" planning, retaining the authority of political subdivisions to develop and modify comprehensive plans to effectively address land use and other issues. DATCP will coordinate with DNR and others to ensure consistency in the way the state manages odor and air emissions.

F. Exercise of Discretion: The law which authorizes or is interpreted by this proposed rule will provide for varying degrees of discretion to be used by DATCP in formulating the policies and procedures contained in the rule. In some cases, DATCP is bound by or limited to federal rules or regulations dealing with the same issues. To what extent is this proposed rule limited by Wisconsin or federal statutes or regulations?

This proposed rule interprets ch. 93, Stats., relating to the siting and expansion of certain livestock facilities, local zoning ordinances relating to livestock facilities, creating a Livestock Facility Siting Review Board, and granting rule–making authority. Chapter 93 limits DATCP discretion particularly in developing standards for new and expanded livestock facilities as part of the rule. The statute specifically provides that DATCP may not promulgate rules under this paragraph that conflict with rules promulgated under s. 92.05 (3) (c) or (k), 92.14 (8), 92.16, or 281.16 (3) or ch. 283, Stats. The rules promulgated under these authorities incorporate NRCS technical standards for nutrient management, waste storage structures, runoff control, and other practices. DATCP acknowledged the limitations imposed by state statute by including a statement of legislative intent in the final rule.

G. Other: Identify and describe (or cross-reference) other relevant factors which relate to the effects of this proposed rule on the quality of the human environment (e.g., foreclose future options, socio-cultural impacts, cumulative impacts to affect entities, visual impacts, and irreversible commitments of resources):

As noted previously, this proposed rule only addresses new and expanded facilities in jurisdictions requiring local approval. They must meet water quality and odor management standards to obtain local approval. This proposed rule does not require new and expanded livestock facilities to comply with standards if they are not locally regulated. Nor does it require existing livestock facilities to comply with standards. Political subdivisions retain the choice to opt in or out of local regulation, and thus become subject to the standards in the proposed rule.

For the most part, this proposed rule does not address social and cultural issues such as conflicts with residential development and road usage issues. Political subdivisions retain the authority to manage these potential impacts and conflicts.

CONCLUSION

This assessment finds that the proposed creation of chapter ATCP 51 would have no significant adverse environmental impact and is not a major state action significantly affecting the quality of the human environment. It is expected that this proposed rule will have a positive impact on the quality of air and water. Alternatives to this proposed rule, discussed in this assessment, will not reach program goals as effectively as this proposed rule. No environmental impact statement is necessary under S. 1.11 (2), Stats.

Signed this 24 day of JANUARY, 2006

STATE OF WISCONSIN
DEPARTMENT OF AGRICULTURE,
TRADE AND CONSUMER PROTECTION
BY

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