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D16 Comment: (WTBA) NR 151.002(9). The definition of "final stabilization" should be changed so that the contractor can receive verification upon completion of the work at the construction site. Under the current definition, contractors would not receive verification that they had completed an implementation plan, pursuant to NR 151.22(1)(d), for months in circumstances in which the project is completed in the fall but vegetation will not be established until spring.

Response: There needs to be someone responsible for a site when the construction is completed in the fall, but before vegetation has come up. If the seeding fails, then the site is no better off than when it was under construction. For purposes of protecting the water resource, final stabilization must be defined as the condition of minimal erosion, not when the contractor leaves the site. The person responsible for seeing that the site achieves final stabilization is identified in contract language, not in this rule.

D17 Comment: (Dept. of Commerce) NR 151.002(9). The definition for "final stabilization" seems to contain substantive requirements that should be captured in a rule rather than the definition.

Response: We agree that it does contain substantive requirements that generally we would place within the body of the rule. However, this definition is consistent with that given within s. NR 216.002(8), and we prefer to remain consistent. If we changed as suggested, we would want to also change the NR 216 definition and would then be required to make other substantial program changes, such as revising the erosion control permits that regulate over 1,000 construction sites across the state. This is too much of a program burden to change as suggested.

D18 Comment: (NRCS) NR 151.002(10). The second sentence should begin, "In general, the major hydrologic soil groups are..."

Response: This definition has been removed from this subchapter and is now found in the body of Subch. III where it refers to TR-55 as the source of the definition.

D19 Comment: (Dept. of Commerce) NR 151.002(11). Under this definition, it would seem that washing one's car in the driveway or watering one's lawn could result in an "illicit discharge." This definition needs to be revised to narrow its applicability.

Response: We have included the following language after the last word. "such as water line flushing, landscape irrigation, individual residential car washing, fire fighting, etc."

D20 Comment: (WLWCA/WALCE, several counties) NR 151.002(13) -- The definition of infill areas (within existing development) is too vague, which may open the door to many unnecessary exclusions.

Response: We have changed the definition to: "Infill area" means an undeveloped area of land located within existing urban sewer service areas, surrounded by already existing development or existing development or existing development and natural or man-made features where development cannot occur".

D21 Comment: (WLWCA/WALCE, several counties) NR 151.002(16). We oppose the exclusion for silviculture from the definition of "land disturbing construction activities." In certain parts of the state, particularly in the north, it is the largest source of sediment in our waters. To achieve water quality goals and parity with the agricultural and urban communities, performance standards must be established for the forestry community as well. Voluntary efforts have proven to be ineffective.

Response: Forestry does not fit the typical construction activity regulated under NR 216 and it also is not considered an agricultural practice under s. NR 281.16(1)(b) so it has not been addressed by either the agricultural or non-agricultural performance standards. We consider silviculture a form of agricultural activity that is exempt from the requirement to obtain a land disturbance construction permit under NR 216. We clarify this by also expressly indicating that it is exempt within the proposed s. NR 216.002(12).

D22 Comment: (Dept. of Commerce) NR 151.002(18), etc. Many definitions refer to the statutes, as an aid to the reader; reprint the statutory definitions as informational notes.

Response: Rules for drafting code do not recommend reprinting of statutory definitions.

D23 Comment: (Dept. of Commerce) NR 151.002(19). The definition of maximum extent practicable (MEP) should include that the department determines the maximum extent practicable so the citizen realizes that the DNR has final authority. Also, the definition for MEP seems to be more than a definition and contains substantive requirements.

Response: This term is used too frequently to make it practical to repeat in every location. MEP is proposed by the designer and DNR may or may not concur with the designer in any given situation. The issuance of the permit is our concurrence that they have met MEP. We don't believe this needs to be spelled out in the code.

D24 Comment: (WTBA) NR 151.002(19) -- The term maximum extent practicable (MEP) is a misnomer. It does not appear to require a "maximum" level of reduction because the amount of reduction required is balanced with other factors. The term should be modified to the "extent reasonable." Also, the DNR should consider whether a separate definition of MEP should be established for the transportation facility performance standards subchapter. Some items to be included in this definition include cost, mobility and land acquisition needs, not just the cost-effectiveness consideration currently proposed, since taxpayers will likely bear the costs. The need to condemn property must be balanced against reduction requirements.

Response: The definition for MEP was developed for this rule, but the term MEP comes from EPA and will be used for consistency. Concerns such as cost, mobility and land acquisition needs, identified in the comment for transportation, can be included under a broad application of the term cost-effectiveness. We do not feel a separate definition is needed for transportation facilities.

D25 Comment: (WLWCA/WALCE, several counties) Clarify that the definition of "total suspended solids" does not include filterable solids.

Response: By filterable solids the comment probably refers to anything small enough to pass through a certain size filter. The TSS test is a standard procedure based on the solids that remain behind when a sample is poured onto a specified filter. The filter is then dried and weighed. This method is identified in "Standard Methods for the Examination of Water and Wastewater, 20th edition," 1998, prepared and published by American Public Health Association, American Water Works Association and Water Environment Federation. It does not include any particles small enough to pass through the filter.

D26 Comment: (Dept. of Commerce) NR 151.002(37) Wouldn't "technical standards" address "installation" or "construction" best management practices? The rules need to specify minimum performance. Our department recommends that the technical standard definition be revised to state: "Technical standard" means a document that specifies design, predicted performance, operation and maintenance specifications for a material, device or method.

Response: The original wording was developed in cooperation with the Department of Commerce. We have made the proposed change.

D27 Comment: (NRCS) NR 151.002(38). "Average annual runoff" should be defined.

Response: Average annual runoff has been changed to average annual rainfall to reflect changes in wording in the text, and it has been defined.

D28 Comment: (individual) What does the phrase "all waters of the state" include?

Response: "Waters of the state" is defined in Subch. I.

NR 151.003 Regional treatment exclusion

D29 Comment: (WLWCA/WALCE, several counties) We support the exclusion for regional treatment and believe this will go a long way toward encouraging communities to complete storm water management planning by watershed prior to development.

Response: We agree.

NR 151.004 State targeted performance standards

D30 Comment: (individual, River Alliance, WISPIRG) Streamline the process to target impaired waters. The DNR should be able to target impaired waterways with a simple designation process.

D31 Comment: (WAL) The DNR or counties should be able to set them when needed to meet water quality standards.

Response: We do not yet know whether the performance standard will meet the needs of all the impaired waters. Our funding sources currently focus funding into these areas. Over time we can determine if the effort is improving the resource or if additional standards are needed. To include additional or more stringent performance standards for certain watersheds would require an amendment to NR 151. This cannot happen without a public review process. We do not choose to set a targeted performance standard without going through this process.

D32 Comment: (Dept. of Commerce) The note seems to contradict the code section. The code section allows targeted standards where implementation of the standards does not meet water quality standard while the note states that the performance standards shall be designed to meet water quality standards. Throughout this process there's been conflict between reality and the statutory language. When the basis of a rule is flawed, it's impossible for the rule to be realistic and enforceable. We recommend that the statutory language be amended to address reality.

Response: The purpose statement conforms to the statutory directive in s. 281.16(2)(a), Stats. This may be difficult to achieve, but it is the legislative directive. Amending the statement as suggested would be a variance from the statutory language, which should be followed. The proposed performance standards and prohibitions are designed to achieve water quality standards, but in case this intended objective is not met, the concept of targeted performance standards is proposed.

D33 Comment: (2 LCDs) The language in this section requires that the performance standards be first implemented and be shown to not meet water quality standards before more protective standards can be applied. This approach does not give the state and local governmental units latitude to evaluate the adequacy of performance standards on the "front end" via predictive modeling. It requires that standards be implemented and proven to fail before the state has the authority to develop more protective standards. Change the rule to allow the development and implementation of targeted standards using environmental models in circumstances where there is a scientific basis for assuming that the minimum performance standards are not adequate.

Response: We have changed the wording to identify when and how the department will make the determination that a targeted performance standard is needed.

D34 Comment: (WisDOT). It is unnecessary to include language in the rule authorizing the DNR to amend its rule. Including such language calls into question whether state agencies may amend rules that do not satisfy the statutory requirements, if the rules lack such a reservation of rights to amend.

Response: The wording is provided to clarify how DNR will proceed in the event that water quality standards are not being met. We believed this would be helpful to the user of this rule.

D35 Comment: (WCA) This section needs further clarification. If there are areas of the state that the DNR believes need more restrictive standards to achieve water quality protection, those areas should be identified within the rule. This would give affected parties the opportunity to comment during the legislative review process, as well as coordinate state-targeted areas with local priorities and initiatives.

D36 Comment: (LCD) This provision leaves an open door for the DNR to change their requirements in those specific areas in order to achieve those goals. I want more definition as to what DNR would do in those areas and what criteria they would set beyond the existing performance standards.

Response: DNR does not have a list of waterbodies that may not achieve water quality standards after full implementation of the performance standards. This may become apparent as TMDLs or other analyses are completed. Targeted performance standards will be developed through administrative rule and will receive public and legislative review. Also see response to comment D33.

E NR 151, Subchapter II, Agricultural Performance Standards and Prohibitions

General Comments

E1 Comment: (individual) Very small operations under a certain number of acres being fertilized or operations under a certain number of animal units should be exempt from these regulations. A hobby farm with a dozen goats and a horse should not be forced to pay for a nutrient management plan — that would be over-regulation.

Response: The decision to apply the performance standards and prohibitions regardless of size was based on recommendations of an advisory committee, representing a wide variety of stakeholder groups. Applying these rules to all sizes of operations recognizes that any operation can have significant environmental impacts if improperly managed and also makes them eligible for cost-sharing.

E2 Comment: (UW rural sociology) Much of the revised rules focuses on specific agronomic standards, yet everyone is aware of the diversity that characterizes Wisconsin agriculture — the biophysical settings, crops and products, types of farms, private sector services and the public agencies that work with farmers. The proposed standards do not address this diversity and creates the potential for significant variation in how these standards will be interpreted on a site-specific basis. We can expect rancorous debates on how a prescribed practice should function in one setting versus another, how one LCD chooses to implement the standard versus another and how one type of farm is impacted by the standards versus another.

Response: The rules were modified to reflect general performance standards rather than specific standards and still maintain the goal of protecting water quality in a fair and equitable manner. The rules are flexible enough to implement various strategies and give local governments an opportunity to target the worst pollution sources with practices that have worked in the area. Variation may occur when farms produce varied products, have different topography and soils, and use different management practices. However, a variance is available in those situations where commonly used practices are not a viable alternative to accomplish water quality.

E3 Comment: (WLWCA/WALCE, several counties) While sections NR 151.02-151.08 state that livestock operations and crop producers shall comply with this section, the rules is silent regarding when they are required to comply. In the interest of the livestock producers who will be regulated, we recommend that the rules clarify that the applicability of all performance standards is upon rule passage and that individual compliance deadlines will be based upon landowner notification, as described in the rule. County LWRM plans must further describe local strategies and timelines, as required under ss. 92.10, Wis. Stats.

Response: Language has been added to the code indicating that the codes shall be implemented in accordance with the timelines specified in NR 151.09 and 151.095. Requirements to comply with the performance standards and prohibitions are specified in this section and depend on whether the facility/operation is new or existing, whether cost-sharing has been provided for eligible costs and whether the performance standard has a delayed effective date. In most instances, compliance will likely be phased-in based on available funding for cost sharing of practices for existing operations and facilities.

E4 Comment: (tech. college ag. instructor) Flexibility must be allowed due to the unpredictability of weather. Using BMPs does not always work as intended due to weather. A farmer must be allowed flexibility to produce a crop and remain profitable.

Response: The specific technical standards were removed from this code providing more flexibility in the use of BMPs. The regulations are intended to require control of runoff up to and including an identified storm event (most of the time this would be the 25-yr., 24-hr. storm or the 100-yr., 24-hr. storm). There are a large number of standards that can be used and there are few situations where practices will not fit a particular farm or weather situation. There are variances for those situations where the usual BMPs will not fit the situation.

E5 Comment: (Organic Inspection Assn.) Allow a generous amount of time for farmers to include these performance standards in their farming practices and allow flexibility in how the performance standards are met.

Response: For existing cropland practices, the nutrient management performance standard contain a delayed effectiveness date of 2005 in certain high priority areas, and 2008 in all other areas. New cropland practices need to comply within one year of the effective date of the rule. There will also be delays in implementation for existing operations due to limited cost-share dollars. However, such delays should be expected to be lessened in areas that are considered high priority areas by the department or other governmental units. Provisions on how to meet the performance standards are contained in ATCP 50. In most cases, an operation will be working with local units of government (typically the county) to determine how the operation can use flexibility within technical standards to achieve compliance with the performance standard.

E6 Comment: (LCC) Performance standards should spell out the end results, not the specific means to achieve them. Local staff and landowners/operators are best suited to prescribe the specific means and methods to comply with performance standards.

Response: The code does not prescribe specific practices to be implemented to achieve water quality, but rather identifies a list of practices that have been shown to be successful at reducing pollution in storm water runoff. The proposed code also identifies activities that landowners may not practice as dictated by state statutes. It also developed general goals for improving water quality. The revised version removed most references to technical standards and other specific methodologies. We believe the revised performance standards identify end results without specifying how to achieve them.

E7 Comment: (farmer) Municipal wastes should not be applied to food producing lands—they may contain toxic materials.

Response: Land application of municipal wastes is addressed by ch. NR 204.

E8 Comment: (CWC) We support the immediate adoption of the AWAC manure management prohibitions statewide.

Response: Your support is acknowledged.

E9 Comment: (farmer) I question that these rules do not require farmers to do extensive fencing. How is an area supposed to stay grassed if it is not fenced?

Response: There may be situations where particular farming areas will need to be fenced. However, fencing is not required unless the grassed cover cannot be maintained due to cattle access. In many cases it will mean that cropping practices will have to be curtailed in areas adjacent to surface waters.

E10 Comment: (WLWCA/WALCE, several counties) Remove references to specific technical standards. To avoid having to update the rule every time a standard is updated or forcing landowners to comply with outdated standards, have the rule simply refer to the "current" technical standard. Listing BMPs in every grant is also overly bureaucratic. A simple cross-reference to the rule should be sufficient.

Response: Where not needed for program implementation, we removed references to NRCS technical standards and instead reference the technical standards in ATCP 50. DNR procedures require a date attached to any technical standard that is referenced.

E11 Comment: (wastewater utility) We support rules regarding manure storage facilities, clean water diversions, and manure management prohibitions.

Response: We appreciate your support for these provisions.

E12 Comment: (LCD) With the standards, there needs to be a requirement for conservation plans. The model that we could best use is in the 1985 farm bill that required conservation plans. Prior to that date, most farmers didn't know what a conservation plan was and did not want to know what a conservation plan was. In Manitowoc County, it took 5-10 years to get this across. We've had success with conservation tillage on a voluntary basis in Manitowoc County. We have 30% cropland utilizing no-till here.

Response: Comment noted. While not specifically required as part of the performance standards, in the vast majority of cases, development of conservation plans will be the means through which farmers would demonstrate compliance with the performance standards (e.g., sheet, rill and wind erosion, concentrated

flow channels, and nutrient management). There may be a very limited number of instances where compliance could be demonstrated through other means, but these would be in areas of low concern for soil loss (e.g., fields with low slopes and sandy soils typically exhibit low rates of soil erosion).

E13 Comment: (LCD) The rules currently prohibit livestock access to streams. We need to tailor that to different waterbodies. I had a water sample pulled, water was coming out of a tile line. The substance coming out of tile line was almost raw urine. The current standards do not address that.

Response: The introduction of manure or urine to a tile system that discharges to a water resource is not directly covered by the performance standards and prohibitions, but could be subject to a citation under a different statute or could result in WPDES permit coverage depending on the specific facts. The general approach to improving the conditions is to develop a technical standard to address these situations.

E14 Comment: (TU) The livestock rules are especially important to trout streams and other fisheries. Restricting stream access to livestock is a well-known basic tool to reduce sedimentation that degrades streams and rivers. Runoff from manure storage facilities and feedlots clearly causes direct and avoidable harm to lakes and streams.

Response: The proposed code has a provision to limit cattle access to the point where a minimum of 70% effective cover is maintained along water resources which should significantly reduce streambank erosion and sediment delivery from areas immediately adjacent to them.

E15 Comment: (farmer) You can't farm all of your land under these rules. Contours, strip crops, and buffer strips will take a lot of land out of production. Your enforcement will result in a change in farming styles. We won't be able to use the most efficient methods and will be forced to use methods dictated to us that will force lower yields. Even though you can't prove benefits from a reduction in fertilizer use, the rules will still be implemented. The rules say they apply to all land in Wisconsin, not just the 10-15% of land that contributes to nonpoint runoff. The nonpoint rules don't need to be applied to every acre on every farm. What about applying them only to highly erodible lands? All 2T and 3T land and about 1/3 of all land that varies from 2-3 T. That would save on the cost of nutrient management plans. Common sense tells a farmer that you can't get runoff from level sands. Why impose the same restrictions on them as on rolling silt loams?

Response: Practices such as contours and strip cropping to reduce cropland erosion do not remove land from crop production and help maintain soil fertility. Limiting erosion to "T" helps maintain soil fertility that can maintain and in some cases increase crop yields as production methods improve. The restrictions that are placed on areas adjacent to water resources and areas where the potential for groundwater contamination is high are for the protection of a resource that belongs to the public. We have removed the water quality corridor (buffer) standard.

Research has shown that the phosphorus in runoff has a significant impact on the surface water quality and that nitrogen from over application of manure and improper manure stacking elevates nitrogen levels in groundwater to concentrations that are unsafe for human consumption. Many sandy soil areas in the state where fertilizer is over-applied have degraded drinking water, unsafe for human consumption.

E16 Comment: (TU) Any area used by livestock that is used to a degree that the vegetation is no longer present, including areas that have intentionally had the vegetation replaced by soil, concrete, etc. should meet a phosphorus discharge limit of less than 15 lbs. per year, as modeled by appropriate up-to-date computer simulation models (an update of BARNY).

Response: The code does have limitations on discharges from livestock areas. Clear water must be diverted and there is to be no discharge from these areas to water resources. The restriction on discharges would limit phosphorus. Because of variability in soils, farm operations, receiving waters, etc., establishing a numeric limit is not advisable.

Specific Comments

NR 151.015 Definitions

E17 Comment: (farmer) The determination of an ordinary high water mark needs to be revisited. A different measure, such as the stream bank or river bank, should be used.

Response: The term is now added to the definitions and is consistent with NR 115, Wisconsin's shoreland management program.

E18 Comment: (housing industry) There seems to be some confusion with the varying definitions of a "bank" found in different DNR regulations. The current proposed definition is derived from mining regulations which are not applicable to the development of property. The term "bank" should be defined as: "...an area of land between the waters edge and the ordinary high water mark for lakes, or the top of the channel for streams and rivers." (3 housing industry reps. added the following to the suggested definition: "...rivers, or at the delineated boundary of wetlands..."; another rep. suggested: "...an area of land that commences at the ordinary high water mark of lakes, at the top of the channel of streams and rivers, or at the delineated boundary of wetlands and that is the greatest of the following widths, as measured perpendicularly away from the ordinary high water mark, top of the channel or delineate boundary along the contour of the land.") This definition is consistent with the *Black's Law Dictionary* definition and should be consistently used throughout NR 151.

Response: The rule language was clarified for "top of bank" (now "top of channel" defined in NR 151.002) and ordinary high water mark.

E19 Comment: (LCD) NR 151.015(8)(b) The term man-made conveyance may be interpreted to include constructed grass filter strips built as part of a previously approved barnyard runoff control system. Interpreted this way, landowners (and local government agencies) involved in past construction and cost sharing of these grass filter strips could be faced with the problem of having to pay for reconstruction of previously built systems to further restrict barnyard runoff. We don't think this should be required.

Response: The existing language states that there shall be no direct untreated runoff. The runoff flowing through a grassed filter strip could (and in most cases would) be considered treated.

E20 Comment: (farmer) What is the definition of a feedlot? Do animals that are fed on pasture during the winter but can get inside during inclement weather constitute a feedlot?

Response: See response to comments N56 and N57.

E21 Comment: (farmer) Definitions of high water mark, normal [ordinary] high water mark, significant runoff, significant soil loss, and adequate sod cover will be defined by someone. These need to be equitably defined for universal fairness and not through litigation.

E22 Comment: (farmer) What is ordinary high water mark? We should look at stream or river bank.

Response: The definition of "ordinary high water mark" is now defined to be consistent with the definition in s. NR 115.03(6). Adequate sod cover has been clarified in sections NR 151.015 and NR 151.08. Significant runoff and significant soil loss vary with the resource, soil type and situation and will be determined by the best professional judgment of the reviewer.

E23 Comment: (farmer) NR 151.015(18) You reference distances to private wells as 250 feet. In NR151.24, you talk about excluding infiltration 100 feet from private wells and 400 feet from municipal wells. Why the difference? One hundred feet makes more sense in urbanizing areas when you don't know when the next house will be bordering your fields. When these plots go down to 1 acre, there's not a lot of distance between the well and the septic system. Most of us following a nutrient management plan apply at a rate of about 1/4 inch per acre, but with a private septic system for a family of 3 designed for a 1,000 foot drain field, you're putting about 20 feet of septage through that drain field in a year's time.

Response: The distance requirements sited in NR151.015(18)(e) and (f) come from the NRCS 313 Waste Storage Facility technical standard and addresses concerns regarding these types of facilities. The concentrations leaching and running off these sites are much greater than those coming from a septic system or land application of manure. For this reason the separation distances are greater.

E24 Comment: (WI Pork Producers) NR 151.015(18)(a) When is this measurement (of any area where the soil depth to groundwater or bedrock is less than 2 feet) taken or this line effective? Is 2-foot depth the 1988 depth to groundwater or the 1993 depth to groundwater?

Response: Typically the groundwater level would be determined by the classifications used in a soil survey along with a soil boring to determine the seasonal depth to groundwater. The level would be determined at a point where oxidation in the soil indicates that the groundwater was typically below this level. In those years when groundwater was uncharacteristically high, the regulations regarding potential for groundwater contamination due to manure stacking or spreading would be assessed.

E25 Comment: (NRCS) NR 151.015(18)(b) Second Note -- The reference to the standard should read: "...NRCS FOTG Standard 725 Sinkhole Treatment; (March, 2000)."

Response: The code was changed to reflect the comment.

E26 Comment: (NRCS) NR 151.015(18)(d). It should be clarified that if the area of soil containing less than 10% fines is the whole profile, the upper 3 to 5 feet or some other measurement and what special features, such as a clean sand layer, make it susceptible.

Response: The code language was changed to define the conditions under which a site would be considered susceptible to groundwater contamination.

E27 Comment: (DATCP) NR 151.015(20)(b) Change "an increase in the volumetric capacity to accommodate greater than a 20 percent expansion of the operation." to "an increase in the volumetric capacity of manure storage to accommodate greater than a 20 percent expansion of the operation."

Response: The language now refers to a structure or facility.

E28 Comment: (DATCP) NR 151.015(20)(c) The following statement is not very clear: "...rerouting of a roof runoff management system where the change in rerouted roof runoff volume generated from the structure or facility as a result of a greater than 20 percent expansion of the operation."

Response: The language was changed to clarify the meaning.

E29 Comment: (DATCP) NR 151.015(20)(d). Change "...an increase in the capacity of a livestock facility of greater than 20 percent..." to "...an increase in the capacity of a livestock facility of greater than 20 percent and there is a substantial increase in the livestock housing facilities...." The main concern should be changes to facilities and not penalize a producer while increasing animal numbers and not building new facilities. When facilities are being built is when producers should be encouraged to adopt practices on their own. Livestock numbers are hard to keep an accurate handle on, while additions of livestock buildings are more easily tracked.

Response: We changed the definition of substantial alteration to reflect physical changes to facilities.

E30 Comment: (DATCP) NR 151.015(20)(e). "Change in a facility related to a change in livestock management from one type of livestock to another such as cattle to poultry." Add the following sentence: "These livestock facilities are not considered substantially altered if prior to and after the livestock conversion, the facility is not violating the performance standards and prohibitions."

Response: Changes to the definition of "substantially altered" were made, but not the specific change requested in the comment.

E31 Comment: (LCD) NR 151.015(24). This is a confusing definition of water quality management area, particularly as it relates to the definition of navigable waters and shorelands. The definition should be changed to be the same as, or consistent with, the definitions of shoreland, floodplain, and wetlands as defined in other state administrative rules and county shoreland/wetland zoning ordinances.

Response: Water quality management area is partially defined by statute. Some of the language in the proposed code came from NR 115 which is almost identical to shoreland/wetland zoning. Given issues of nonpoint source pollution, we made the definition as consistent with shoreland/wetland zoning as we could and still address potential runoff problems, and economic issues of the agricultural community.

E32 Comment: (LCD) Concerning definitions, a waterway in clay soil is very different than a waterway in sandy soil.

Response: In the revised draft the term “navigable waterway” is defined. We agree that these two soil conditions make the waterway conditions different, and this may have an impact on where the buffer datum is placed, but this determination would still be made and the conditions would need to be followed from the datum. In those cases where establishing the datum may be difficult, assistance from various government agencies will be available.

Cropland Performance Standards

E33 Comment: (farmer) No till and ridge till with the same residue on top erode at much lower rates than worked ground with the same residue. This is very important when channelized flow areas and riparian areas are considered. No-till and ridge till should be less restrictive.

Response: This would be taken into account for the sheet, rill and wind erosion requirement. The water quality corridor standard was removed.

E34 Comment: (farmer) Lowering erosion rates costs farmers money when we set land aside to stop soil losses. Buffers and grassed waterways yield no grain, and it is virtually impossible to harvest hay from many of them (many farmers no longer have haying equipment). These dedicated conservation acres harbor weeds, insects, and other destructive pests and are not a good choice for CRP on many well-managed farms.

Response: The department removed water quality corridors and concentrated flow channels as required performance standards.

E35 Comment: (Organic Inspection Assn.) The performance standards for soil erosion should take into account crop rotation practices and averaging of crop practices over a few years. The DNR needs to make allowances in the rules for farming practices that build organic farming practices and improve the ability of the soil to absorb runoff. The DNR should encourage limitation of pesticides and encourage composting.

Response: The RUSLE model does account for these management practices. Any equivalent model should as well. DNR cost shares many of the BMPs that will improve the soil's ability to absorb runoff. We also cost share pesticide management practices.

E36 Comment: (farmer) I hope that as we proceed in this program, we work with our UW soil experts that advise the agronomist crop consultants in the state. The company I work for is designing a special zone-tillage/zone fertilization tool to return P to soil. Fertilizer is way too expensive to let it get away from us.

Response: We worked with the UW and other research sources to form this code. The nutrient management requirements are based on UW research and guidance. In addition the UW had representation in the work groups that developed the nutrient management recommendations.

E37 Comment: (farmer) I would like to see an item suggesting the use of “industrial hemp” in farm rotation to reduce phosphorus going into streams. Industrial hemp is an extremely high user of phosphorus. Normal farm rotation would reduce the phosphorus in the land with this crop. You can grow industrial hemp without any fertilizer, no insecticides, and no herbicides – it is a very environmentally sound crop, but there are prohibitions against hemp.

Response: Growing hemp is currently not allowed in Wisconsin. DNR has no authority to change this.

E38 Comment: (farmer) A lot of this is pushing people to no-till. Organic farmers depend on extra tillage/crop rotations to replace the herbicides and insecticides, so they're working up their ground more frequently. You're going to make it almost impossible to raise crops organically in this state with these rules.

Response: Erosion rates are increased with full tillage, and erosion has a very large impact on water quality with delivery of sediment and the attached pollutants. Farming to “T” is a sustainable form of

farming that will allow organic farming to continue, not farming to "T" insures that at some later date organic farming will no longer be a viable form of farming.

E39 Comment: (WI Cattlemen's Assn.) Case law set the standard for determining the ordinary high water mark. How can you expect farmers, who don't have the resources to research these standards, to comply with these standards? A clear reasonable standard is needed.

Response: The county LCDs locate this as do staff from DNR and NRCS. Case law established what the ordinary high water mark is. There may be cases where the OHWM is in question, but in most cases it will be apparent.

NR 151.02 Sheet, Rill and Wind Erosion Control Performance Standard

E40 Comment: (UW Rural Sociology) The T value is an educated guess about the soil formation process. The amount of error in this T value is significant when compared to the relative difference between USLE and RUSLE. NRCS and their legal staff in Wisconsin will only support the Revised Universal Soil Loss Equation (RUSLE). RUSLE will ultimately be replaced with equations being developed under the Water Erosion Prediction Project supported by the Agricultural Research Service of the USDA. There is no scientific justification to remain with the older USLE erosion prediction model.

Response: Revisions to this performance standard recognize RUSLE II, as referenced in ATCP 50, as the methodology to estimate T for sheet and rill erosion.

E41 Comment: (UW Biosystems Engineer) Tolerable soil loss (T) values are not calculated; they are expert estimates as to acceptable soil loss for maintaining long term productivity and have been adjusted from time to time. From an academic standpoint, T values are not appropriate for setting water quality limits. Water quality standards should be set on sediment yield to streams, the nature and concentration of the sediments, and the quality requirements of the stream. While the research is not at the point where we know how to make these determinations on a watershed basis much less on a field-by-field basis, we can do better than using T values. We can define "critical areas" of stream impact in a watershed—the path from the source area to the stream along with the amount of erosion. This will allow us to target sites with high sediment yield that impact water quality while not forcing farmers to meet T on all land.

Response: The department recognizes the inexact nature of the prediction T and that T is based on soil productivity and not water quality. However, that does not mean that water quality benefits, and water quality goals, will not be achieved in areas of the state by setting T as a statewide baseline standard. This performance standard will also likely be used in combination with others which will further reduce water quality impacts. In areas where T does not achieve water quality standards, promulgated targeted standards or the passage of local ordinances that go beyond T to achieve water quality are options.

E42 Comment: (UW Biosystems Engineer) RUSLE has a much stronger data base and more theoretical basis than USLE. Two situations seem to be leading to the debate. 1) county office workloads will increase as conservation plans will be redone when switching to RUSLE. 2) in some parts of the state, RUSLE gives lower erosion estimates. When the intensity of the conservation practices needed to reach T is reduced, more ephemeral gullies develop. Both of these concerns are real but do not justify the use of outdated science. Neither RUSLE nor USLE has an ephemeral gully component, so we should not expect it to predict such losses. Ephemeral gully prediction will probably be in RUSLE III, but that is a long way off.

RUSLE II, scheduled for public release in July 2001, will be a major advancement over RUSLE, both in terms of ease of use and information provided. It will also help evaluate sediment yield for hill slope situations. It is not wise to require use of RUSLE when RUSLE II is so near to release, but neither is it wise to permit individuals or each county to decide on any equation they wish to use. It is not clear who will make the choice. If it is the landowner, there will be an increase in LCD and NRCS staff time. It appears that the county will have to have a variety of evaluation tools available and may have to run several so that the farmer can make an informed choice. Surely that was not the intent. A logical approach seems to be for the county to accept current plans until a significant change occurs. In the meantime critical areas can be identified, new plans can be developed for such areas using RUSLE or RUSLE II when released.

Response: The performance standard was revised to only require that cropped lands must meet T. References to methodologies to estimate T were deleted from the performance standard requirements and a note was added that recognizes RUSLE II as the methodology to estimate T for sheet and rill erosion.

E43 Comment: (farmer) The requirement to meet T in water quality management areas will create an undue hardship to me.

Response: Reducing cropland erosion is especially important in areas near waterbodies. Many cropland BMPs may be cost-shared up to 90% for hardship cases.

E44 Comment: (farmer) T is a realistic goal for many farmers but not for all. Many more acres could and should be farmed to T than are meeting it today. If the goal of these rules is to lessen the nutrients leaving farmland, limiting erosion will be the key to its success. The nutrient problems from field runoff has much more to do with the loss of soil than the manure applied to, and fertility levels of, that soil.

Response: While we agree that sediment is the major nonpoint source pollutant impairing water quality, the proximity of manure application also plays a role.

E45 Comment: (LCD) Since NR 151 is written to control runoff pollution for water quality protection, this section should be rewritten to say: "All land where crops or feed are grown that have a significant potential for sediment delivery to waters of the state shall be cropped to achieve a soil erosion rate equal to, or less than, the "tolerable" (T) rate established for that soil." A requirement to control soil erosion to T on cropland that has little or no impact on water quality is inappropriate under NR 151.

Response: Under certain rainfall conditions, the vast majority of fields can contribute sediment loads to surface waters, making a statewide requirement of T environmentally beneficial. Determining what is significant potential versus applying T, an accepted agronomic value, statewide would add a level of complexity to the performance standard that would complicate implementation. Instead of making an additional determination of where T should apply, variance provisions can be used to exclude areas where it is determined that a field has no potential for sediment delivery, if the variance criteria can be satisfied.

E46 Comment: (farmer) Please provide farmers the required tools they need to reach these restrictions. Make the USLE, RUSLE, and RUSLE II available to farmers in paper worksheet form and in computer forms as a stand-alone program and as a spreadsheet file compatible for both Windows and Mac users. There is no excuse for this not being made readily available to farmers now.

Response: This request is beyond the scope of the codes, but is something that NRCS, DNR, DATCP and the UW could explore outside the rule-making process.

E47 Comment: (WI Env. Decade) We support his provision but note that even at "tolerable" soil loss rates, water quality may still be harmed.

Response: In those instances where water quality is not achieved, provisions are in the code to target specific problems that will improve water quality. Also, see response to previous comments on T.

E48 Comment: (So.Fork Hay project mgr.) Is there going to be a statewide standard for soil loss funded by the state? If a county wants something different, would the county fund it?

Response: There will be a statewide requirement that cropped fields must be farmed to T. This requirement would be cost sharable by the state at 70% (90% for hardship cases). If a county wants something different, it would have to be at least as stringent as T and the county would have to pay for it or seek other funding sources, such as federal, private, or non-profit.

E49 Comment: (farmer) Our land is all set up for reaching the T level that was set years ago. Now it will be impossible to meet T on some of our lands. We will have to quit farming and may have to sell to subdivisions.

Response: Most tillable land should be able to meet "T" with currently accepted BMPs. In those situations where existing BMPs are not capable of reducing erosion rates to "T" or less, alternative approaches may have to be used.

E50 Comment: (farmer) Are you going to say we think the guy is farming in such a manner that he might have too much soil loss? Are you going to scoop up all the soil that washed away somehow go down and collect it, weigh it, and say this is how much was lost? You aren't going to be able to measure how much soil is in the field and say the soil map says there was X amount before because the soil maps are not accurate.

Response: While calculations cannot determine exact amounts on a yearly basis, over time, average erosion rates can and have been determined.

Option 1: Local selection of methods to predict T

E51 Comment: (WLWCA/WALCE, several counties) We support and recommend Option 1. The rule should recognize that evaluation tools and models are dynamic and change through time based on latest research and local field trials. Field professionals must be allowed to use the models that best fit local conditions and needs. The rule should define circumstances or criteria that must be met in order for the state or local agency to change the evaluation tool. The rule should also define a procedure to inform regulated parties of when a new evaluation tool is introduced and explain the impacts on their operations. Minimum criteria to justify a new model should include: 1) the model is based on field-based scientific research, and 2) it is adopted for regional application using a process similar to that of the Standards Oversight Council.

E52 Comment: (LCC/LCD) We strongly oppose any reference to a particular cropland soil erosion prediction model within the administrative rules. Local selection of a cropland soil erosion prediction model is the only acceptable option for insertion into the administrative rules. Future cropland soil erosion prediction models released by any governmental agency for local consideration must be required to be subjected to the same form of rigorous peer review as is currently required of technical standards by the Standards Oversight Committee (SOC).

E53 Comment: (Co. lake spec.) I support Option 1. Language should be added to define when a new model can be used-when it is based on field-based scientific research, and when it has been adopted for use through the SOC process.

E54 Comment: (LCD) We select Option 1. We agree that an individual agricultural operation should only be evaluated against and required to comply with performance standards based on a single equation or model. Let the local officials choose which soil erosion equation is best for local or individual natural resource needs.

E55 Comment: (NRCS) NR 151.02(2) Reword to read: "All land where crops or feed are grown shall be cropped to achieve a soil erosion rate equal to, or less than, the 'tolerable' (T) rate established for that soil. Soil loss shall be calculated in accordance with locally selected formulas, tools or models. Locally selected formulas, tools, or models must have the concurrence of the state Department of Natural Resources." There is no single formula, tool or model that can calculate erosion from water and from wind. The option to select more than one model should be available.

Codifying a single erosion prediction model would limit the ability of LCDs to select new formulas, models, or tools as they become available. Because the DNR has the ultimate enforcement authority for NR151 and is required in cases of non-enforcement to step in and provide enforcement authority, Wisconsin must have concurrence authority over all models, formulas or tools selected for compliance with NR151. The Agriculture Research Service (ARS) considers the USLE to be outdated erosion prediction technology and would not support cases to enforce regulations in which soil loss was calculated using USLE. By approving the use of the USLE in other than limited circumstances, we believe Wisconsin puts itself in the position of enforcing a tool that would not stand up to a court challenge. We expect to have RUSLE2 fully implemented in Wisconsin by the end of March 2002. NRCS will use RUSLE2 to implement programs authorized by the 2002 Farm Bill, and will be using RUSLE2 technology at least until the expiration of the 2002 Farm Bill.

Response: See response to E42.

Option 2: Same as Option 1 but producer may choose methodology if more than 1 is required by different agencies

E56 Comment: (2 ag. agronomists/crop consultants) I support Option 2 for calculating T.

E57 Comment: (WCA) WCA supports the provision that calculates T according to selected formulas, tools, or models, and the agricultural operator is only required to use a single appropriate formula, tool or model. We believe this will greatly improve the ability of both landowners and county staff to understand and enforce the standard.

E58 Comment: (individual) Option 2 is the prudent choice. Option 1 is too basic, and Option 3 is much too restrictive and would be by far the worst choice. Wisconsin has many different regions, from the Canadian Shield in the far north to the driftless area in the southwest. An all-encompassing rule such as Option 3 lacks the flexibility to address differing ecosystems.

E59 Comment: (CCA) Option 2 would simplify soil loss T calculations on large operations, which encompass several different counties.

Response: See response to E42.

Option 3: A single statewide standard.

E60 Comment: (student). It's a great idea to take Option 3 to implement a statewide system. There would be less confusion for people, and it would be easier for people to abide by that system.

E61 Comment: (WI Agri-Service Assn., WI Pork Producers, WPVGA, WI State Cranberry Growers) Only Option 3 should be used for this performance standard. RUSLE would be the best single standard. Locally selected formulas are unacceptable (Option 1). Option 2 will only lead to the inevitable conflict between the farmer and local unit of government and would allow a local government to select a formula for its farmers that could not be achieved.

E62 Comment: (WI Cattlemen's Assn., WI Livestock Breeders) Only one standard should be used statewide. It should take into account variability in terrain throughout the state. This would prevent a producer who owns land in more than one county from having to comply with two or more different standards.

E63 Comment: (LCD) I support Option 3 and choose RUSLE II because it is the most accurate to date -- it portrays actual soil erosion more accurately than the old USLE.

E64 Comment: (LCC) Use the USLE as the model for soil erosion prediction. Do not allow producers to dictate which one they want. It is difficult enough to maintain conservation plans, let alone flip-flopping between two models.

E65 Comment: (farmer) I agree with meeting T if you use the RUSLE II as the state model for predicting soil erosion.

E66 Comment: (LCC) We vigorously support using one statewide model for all county, state, and federal program benefits. Producers will be using the RUSLE model as modified for federal program benefits. This model is based on new research as agronomic practices have evolved over the last 20-plus years. It is important that the producer/farmer not receive conflicting standards.

E67 Comment: (DATCP) NR 151.02(2) Consider the following suggested edits: (2) All land where crops or feed are grown shall be cropped to achieve a soil erosion rate equal to or less than the tolerable (T) rate established for that soil. Soil loss and required conservation practices shall be determined in accordance with designated models, technical standards, and conservation planning procedures. It is inappropriate to allow the use of a variety of prediction models to measure a single parameter. In order to take advantage of the best science, we recommend that RUSLE II be designated as the prediction model for measuring sheet and rill erosion in Wisconsin assuming it is released in July 2001. We are willing to take a lead role in implementing this model and educating farmers and local staff in its proper use.

E68 Comment: (WPVGA) We support Option 3, a standardized method, so producers do not have conflicts in determining which tool is used to determine T

E69 Comment: (farmer) The three options would be confusing. I support a standardized method.

E70 Comment: (UW Office of Safety & Loss Prevention) The university prefers Option 3, which would help ensure the department's ability to establish uniform statewide formulas and, as needed, make consistent improvements on them. The university, which has properties in a majority of Wisconsin's counties, would find compliance to be most efficient if the formulas are consistent at the state level.

Technology transfer and tracking of environmental performance would be more efficient. The university would not object to the DNR's delegating to the local level the enforcement of the statewide standards.

E71 Comment: (farmer) I support Option 3 so producers do not have conflicts in determining which tool is used.

E72 Comment: (farmer) Concerning uniformity, use the latest soil loss equation RUSLE 2. Let's not go backwards but continue to use the latest technology. Folks in the Marshfield corner of 3 counties do not want to use 3 plans. Everyone I know will be using RUSLE 2.

E73 Comment: (farmer). There needs to be some more study on how we are going to implement these soil loss rules so that we can have a more consistent rule across the state.

Response: See response to comment E42.

NR 151.03 Concentrated Flow Channels

E74 Comment: (WI Cattlemen's Assn., WI Livestock Breeders) The rules do not define what constitutes a concentrated flow channel nor what constitutes a significant potential for sediment delivery.

E75 Comment: (2 farmers) What is a concentrated flow channel?

E76 Comment: (MEG) The term "concentrated flow channels" should either be defined or a process for a site-specific determination should be referenced.

E77 Comment: (farmer) This standard appears to eliminate gully erosion. There is no process or method for making this determination. There could be some inconsistencies in the interpretation of the rule.

E78 Comment: (WPVGA, farmer) Without a definitive process to designate a concentrated flow channel, the determination will be on a field-by-field basis, which will promote confusion and an uneven standard statewide.

E79 Comment: (WI Env. Decade) We support this provision while noting that the term "significant potential" remains undefined. Concentrated flow channels should be properly vegetated regardless of their location since by definition, these channels are conduits for surface waters draining from the landscape.

Response: The department removed concentrated flow channels and water quality corridors as required performance standards. In addressing public comments, DATCP and DNR could not agree on a cost-effective approach to implementing these practices as performance standards. The department remains committed to both of these measures as effective means to control nonpoint source pollution. As a result, the department continues to allow cost-sharing for them under its grant programs as non-mandatory best management practices.

E80 Comment: (UW Biosystems Engineer) I hate to see any practice prescribed for a particular problem. There are alternatives to grassed channels such as changes in tillage practices to reduce the amount of flow in the concentrated flow area, the water's carrying capacity and the risk of channel erosion. State the goal of reducing erosion in concentrated flow areas and allow the farmer to work with the conservationist to determine how this will be done.

E81 Comment: (farmer) Leave more discretion to the farmers on this performance standard. One-size-fits-all will be overly restrictive. On 0-3% slopes only isolated areas need to be grassed. On steeper slopes, some will need to be grassed, but some won't. Let the farmers who know the farms have equal power as the regulators in determining where grass is needed.

E82 Comment: (LCD) In the phrase "grass vegetation shall be established and maintained in concentrated flow channels within cropland areas where runoff would otherwise cause erosion or sediment delivery to navigable surface waters.", change the word "or" to "and". Requiring a landowner to correct concentrated flow channel erosion should only be required under this rule if the erosion also results or is likely to result in sediment delivery to navigable surface waters.

Response: See response to previous set of comments.

E83 Comment: (farmer) Grass vegetation in concentrated flow areas should not be a requirement unless the flow channel has a prior stream history, or is considered a navigable waterway. Generally, drainage ditches should not be considered navigable waters and should not be considered a concentrated flow area; they should be exempt from this requirement.

Response: The concept of navigable waters in relation to the concentrated flow channel performance standard should no longer be a concern as this performance standard has been removed.

E84 Comment: (LCD) The rules have vague definitions; clarify "significant".

E85 Comment: (CCA) Who will determine this? This could be a problem if it separates fields that have consolidated into one. It definitely will not be followed by large operations.

E86 Comment: (farmer) My concern is that because I have a major grassed waterway that runs through my farm, you will make me add another 30 feet on each side to protect it when we get heavy flows going through it.

E87 Comment: (farmer) I don't know why you don't use the term "waterway" rather than "flow channel."

E88 Comment: (TU) Buffers of a minimum of 2 rods should be required on either side of all areas of concentrated flow, whether navigable or not. Nonpoint source pollution starts up high in the landscape, not just as sheet flow next to streams.

Response: See response to comment E74.

E89 Comment: (WI Agri-Service Assn., WI Pork Producers, WPVGA, WI State Cranberry Growers) We applaud the change that grassed waterways constructed after the rule's effective date will be declared non-navigable and further recommend that existing grassed waterways must be included in the non-navigable classification. The criteria requiring the creation of a grassed waterway should be clarified.

E90 Comment: (DATCP) We appreciate the DNR's willingness to make the declaration that actions taken to comply with this standard may not result in the channel being designated as navigable by the DNR but strongly urge you to consider expanding this declaration to all agricultural grassed waterways installed to improve water quality.

E91 Comment: (agronomist) I do not agree with NR151.03(3) for the reason that you could possibly have to divide a field into 5-6 different sections if there were several navigable waters running through a field; you should look at this on a field-by-field basis.

Response: The concept of navigable waters in relation to the concentrated flow channel performance standard should no longer be a concern as this performance standard has been removed.

NR 151.04 Water Quality Corridor Performance Standard

E92 Comment: (individual) We support the present rules even though a 20-foot buffer for land sloped less than 2% does not appear to be adequate. We support restrictions on our lake front property of 35-foot buffer as ordained by Adams County shoreland protection ordinance.

E93 Comment: (TU) Buffer strips of up to 35 feet will have an immediate and ongoing benefit. The standards presented here are supported by a number of agricultural groups, and cost sharing is to be provided to people implementing these practices, and we support that.

E94 Comment: (WAL) Minimum buffers required should be 35 feet as recommended by the Agricultural Standards Work Group.

E95 Comment: (individual) The water quality corridor provision in NR 151 which, by most accounts, will be the most important rule regarding rural non-point source pollution, may also be the most intrusive regarding private property rights. People like options, and this provision offers persons 4 conservation options to become compliant.

Response: The department removed water quality corridors and concentrated flow channels as required performance standards. In addressing public comments, DATCP and DNR could not agree on a cost-effective approach to implementing these practices as performance standards. The department remains committed to both of these measures as effective means to control nonpoint source pollution. As a result, the department continues to allow cost-sharing for them under its grant programs as non-mandatory best management practices.

E96 Comment: (WLWCA/WALCE, several counties) This section assures that participants in USDA CRP and CREP programs are in compliance. This encourages voluntary participation in positive incentive programs, and we greatly support this.

E97 Comment: (LCD) We support the multiple options approach outlined in Table 1. This allows landowners a wide range of alternatives to manage areas important to water quality.

E98 Comment: (ag. crop consultant) I support the performance standard of maintaining a 20-foot buffer with no additional conservation requirements if the slope is less than 2% for at least 100 feet beyond the buffer.

E99 Comment: (individual) I support vegetative buffer strips place between crops, settling ponds, etc., and adjacent streams.

E100 Comment: (co. lake spec.) I support the use of buffer options based on the amount of permanent cover.

E101 Comment: (farmer) I agree with this standard.

Response: We acknowledge these comments of support.

E102 Comment: (farmer) I'm following current standards, but the ones being proposed are vague. What is a buffer, for example?

Response: See response to comment E92.

E103 Comment: (individual) Maybe there is a need to implement some zoning changes to accomplish the environmental benefits in these rules. Some farmers have to pay more in taxes on set-aside lands because it has become recreational land and not agricultural land. We need to provide tax incentives to make conservation activities attractive to farmers.

Response: See response to comment E92.

E104 Comment: (individual) You need to put in writing that fencing is not required.

Response: In some instances fencing may be the only way to restrict animal access.

E105 Comment: (farmer) Buffers are great for stopping sediments, but they will not stop toxic sediments unless you put in a larger buffer. The onus has been put on farmers, small villages, golf courses, etc., but DNR needs to address these chemical companies and make them pay some of the costs.

Response: This code does not address toxic substances. DATCP has authority over pesticide use.

E106 Comment: (UW Biosystems Engineer) We do not have a definitive method for establishing a desirable filter width. There are many parameters in determining filter effectiveness: filter width, grass height, density, stiffness, and characteristics of incoming flow. Ponding length upslope from the filter is important since in an effective filter, much of the sediment is deposited in this ponded length, not in the filter itself. I am not sure the residue cover upslope from the filter will have a major impact on the filter except as it reduces the sediment load to the filter. Until we have a better diagnostic tool, the approach in the proposed rules appears reasonable. RUSLE II will be a valuable tool in evaluating buffer strips. There are no guidelines for maintenance of strips. Will harvesting of the strips be allowed? If so, under what conditions? Harvesting is desirable because it helps keep invading species under control and provides for some nutrient removal. Because filter height and density are important, a minimum cutting height and harvesting during periods of low runoff potential may be desirable.

E107 Comment: (UW Ext. soil scientist) The widths established in NR 151 are not consistent with those that would be prescribed using NRCS Technical Standard 393, which would prescribe much wider filter strips. The inclusion of a row crop zone with various levels of residue next to the permanent cover is unusual. There is no statement as to when crop residue would be measured and the fact that the level will change as crops are rotated.

Response: See response to comment E92.

E108 Comment: (WLWCA/WALCE, several counties) Remove all references to technical standards under this performance standard.

Response: See response to comment E92.

E109 Comment: (WLWCA/WALCE, several counties) Make the applicability of this performance standard consistent with the urban buffer standard.

Response: See response to comment E92.

E110 Comment: (WLWCA/WALCE, several counties) Clarify how these corridors are to be measured (perhaps by figure or illustration) and the state's intent to buffer floodplain wetlands located adjacent to a navigable stream.

Response: See response to comment E92.

E111 Comment: (farmer) There should be alternative ways of reaching the goal.

Response: See response to comment E92.

E112 Comment: (LCC) Congratulations to the DNR, DATCP, NRCS, Farm Bureau, River Alliance, and all workgroup members who created the buffer strip standard. While the debate on how wide to go could continue forever, the need to have a buffer next to streams is clear. Buffer strips are the most effective nonpoint practice we have to reduce sediment delivery. They are often installed on marginal cropland that is too steep or too wet to invest fertilizer, seed and chemicals. Buffers are a sustainable agriculture and farmers will install them if we provide adequate funding.

Response: See response to comment E92.

E113 Comment: (WI Env. Decade) We urge the DNR to require adoption and implementation of riparian management plans for livestock operations affecting surface water resources. Such plans will outline management practices compatible with restoration and maintenance of healthy aquatic ecosystems. These practices may include properly conducted intensive rotational grazing where livestock access to surface waters is managed to protect the status of the aquatic ecosystem. Protection of ecosystem status includes maintenance of aquatic habitat that supports fish communities and that would exist under natural conditions, as well as maintenance of normal water quality parameters such as turbidity and temperature and bacterial composition.

Response: See response to comment E92.

E114 Comment: (WI Env. Decade) We are in agreement on buffer standards in the rules. We realize that implementation has to be graduated. We agree that there are places where buffers are not appropriate, areas where berms have been created over time. We're open to looking at that.

Response: See response to comment E92.

E115 Comment: (LCC) The varying widths and cover types for this performance standard is too complicated. One width with a percentage of cover would be better for checking and provide much less confusion. A 25-foot buffer with 80-90% cover would be much more tangible.

Response: See response to comment E92.

E116 Comment: (LCC) We recommend a 5th prohibition that prohibits moldboard plowing closer than 20 feet from any Wisconsin stream.

Response: See response to comment E92.

E117 Comment: (WI Agri-Service Assn., WI Pork Producers, WPVGA, WI State Cranberry Growers) Farmers should be able to continue use of the buffer practices already established in the drainage and agricultural shore land programs. Flexibility must be built into the treatment of these riparian fields so those farms with existing buffers will be able to meet the performance standards and still remain economically viable.

Response: See response to comment E92.

E118 Comment: (farmer) Buffers must be implemented farm by farm. I have a field that slopes away from the river; some fields have a large drainage area to a waterway that may need a larger buffer than what is recommended; and some will fit into the recommendations.

Response: See response to comment E92.

E119 Comment: (farmer) Any land beyond dry or waterway must be rented like cropland.

Response: See response to comment E92.

E120 Comment: (farmer, individual) Buffers will build up with silt and grass over time, maybe as little as 5 years, and how are we going to drain the fields? When our crops have drowned out, who is responsible for the loss?

E121 Comment: (farmer) We operate on very good land that has less than a 1% slope, but it is a challenge to drain that type of soil. I know buffers are valuable and necessary in some places, but there are also places where it is tough to drain land. Even with 20-foot buffers, I would challenge people to put grass in it and see if you can get it dry on the back side

E122 Comment: (farmer) With buffer strips, you tend to get a damming along streams, so when it rains the water from the fields dams up behind the buffers and creates a problem for the crops. I think you should have the bank sloped back so that you can maintain it by mowing. If you get trees in there, you create shade, and there's a lot more erosion along the streams.

E123 Comment: (farmer) If a filter strip/buffer is placed on the edge of the stream and catches runoff, what are you going to do when the filter strip gets full? And they will.

Response: See response to comment E92.

E124 Comment: (LCC) Reconsider the blanket recommendations requiring buffer strips to be installed adjacent to "all" watercourses. While we believe the practice is practical, our concern is that there will be a number of requests for variances, such as numerous cases in our county where runoff from particular crop fields do not directly discharge into the adjacent watercourse. This could lead to an enormous amount of paperwork and documentation for local agencies.

Response: See response to comment E92.

E125 Comment: (farmer) What will I get off buffer strips? Will I see more wildlife damage? How will water from several hundred feet of field go directly into the stream? What you do on top of the field is more important than what you do at the bottom. Buffers are more cosmetic than anything. Filter strips can do what buffers cannot.

E126 Comment: (farmer) Land in Wisconsin varies a lot. Where there is a lot of hilly land, you can do more by no-till and contour strips than with buffers. You cannot use one blanket policy for all farms.

Response: See response to comment E92.

E127 Comment: (farmer) To require the 10-foot buffer along streams is socialism. It's like saying that we cannot use 10% of our house or a business. That's not going to fly well in 2008 when enforcement really begins and when I'm trying to use the best farming practices possible.

E128 Comment: (farmer) On that 10-foot strip, besides land loss, I will have to cut that. When that land is in a hay crop, it's not so bad. If it's in corn silage, I will need to cut down brush. And I will still have to pay taxes on it. If I put corn silage in, I will have to put in some type of a cover crop. If a 10-foot buffer is required, I will need 90 feet with minimum crop residue. I will need to sow oats or such to keep up the residue.

E129 Comment: (LCD) As the rule reads now, every riparian crop landowner has to forfeit at least 10 feet of cropland on either side of a navigable water body, which could cause some farmers to lose the opportunity to generate annual income from many cropland acres on their farms. There are no provision in the rules for providing continual annual compensation to landowners for lost opportunity costs resulting from cropland being placed into permanent vegetative buffers.

E130 Comment: (farmer) I didn't find anything in the rules that indicates what cost sharing will be available for buffers. It must be adequate for a producer to be able to take that land out of production and not make any money. On the buffer strip itself, will we be able to harvest or not harvest? Thirty feet along a creek is a lot of land. Will this buffer be a permanent easement?

Response: See response to comment E92.

E131 Comment: (farmer) The 10-foot buffer area starts at the top of the bank. Where is the top of the bank, OHWM, etc.? How are we going to determine the top of the bank? Generally, it keeps on sloping away. I would like a better definition for measuring the 10-foot area.

Response: See response to comment E92.

E132 Comment: (farmer) How do you maintain steep banks with trees? You can't go in with a backhoe and take the trees out. Maybe you need to provide extra cost sharing for maintaining buffers along steep banks because it takes more to maintain them.

Response: See response to comment E92.

E133 Comment: (farmer) With the 50% residue 90 feet from the 10-foot bank, I'm not allowed in my conservation plan to chop silage off the upper 50% of my farm, so I have to take it off the bottom ground. When you take silage off, you have nothing left. I'm in a manure management plan now that allows me to spread manure 200 feet from the ditch, but I've got to work it in 72 hours later. Then I can't till the ground, so I have to no-till, which I'll do if I can. There's no way that I can let 50% in residue when I take it all off.

Response: See response to comment E92.

E134 Comment: (WAL) There is inconsistent language in the purpose for buffer requirements between urban and rural. The same wildlife depends on buffers in the country as in the city. We want to see consistent language concerning functions of buffers in both rural and urban areas.

Response: See response to comment E92.

E135 Comment: (individual) I presume that the rules would be written in such a way that any required buffer strips will be classified as active agricultural land for purposes of the use value assessment law.

Response: See response to comment E92.

E136 Comment: (individual) Construction should be prohibited in buffer zones, even if runoff does not go directly into a waterway (also applies to transportation and non-agricultural buffers).

Response: See response to comment E92.

E137 Comment: (NRCS) CRP and CREP have federal incentives available to landowners to establish filter strips or forest riparian buffers along streams much greater than what is presently available from state programs. The mandatory 10 foot strip in NR 151.04 could take away more than one-third of the potential benefits of CRP and CREP. These programs have the potential for greater water quality protection and wildlife habitat at a rate more attractive to the landowner.

Response: See response to comment E92.

E138 Comment: (individual) You can get CREP and an additional 20% plus a signing bonus. Given the state of farming today, this economic incentive might very well provide you with the best productive land you've got along that stream in terms of payback.

E139 Comment: (individual) I've looked at CRP. I can get an \$83 payment, but I'm charged \$75 rent at the top. I end up with an \$8 benefit of going to CRP. With CREP we get sign-on bonuses. Under these rules, I may be required to plant trees. That's another problem. If trees start growing, you end up losing the vegetation that holds back erosion. That will also shade my crops. That is another cost.

Response: See response to comment E92.

E140 Comment: (farmer) To continue to grow corn silage in the WQMAs on my land (the rest of the land is too hilly), I will lose 12 rows of corn to meet the permanent cover requirement or 16.7 % of every acre (approximately 3.7 tons of silage/acre lost). Farmers who conserve their land by keeping it in permanent hay fields (e.g., do not grow corn on erodible hillsides or ridges) should receive some allowances for this practice.

Response: See response to comment E92.

E141 Comment: (LCD) NR 151.04(3)(a) Table 1. A fifth option should be added requiring a minimum of 40% residue and/or vegetative cover at all times for the entire width of the WQMA. This would allow farmers that did not want to lose any cropland to a permanent grass buffer the option to continue farming all their cropland but under very controlled conditions.

Response: See response to comment E92.

E142 Comment: (farmer) If buffers or filter strips are required along streams or in cropped fields, the land taken out of production must be paid a good annual rental rate based on what that land could yield. We need to protect the land, but we also need an income from every acre to pay expenses.

E143 Comment: (DATCP) If water quality corridors are maintained as an agricultural performance standard, farmers must be paid a fair price for the amount of land taken out of production. These "lost opportunity" costs can be very expensive. We were pleased to see the DNR recognize this issue in NR 154 by offering up to \$100 per acre for land put into riparian buffers. However, we strongly recommend that both agencies use the amount established in Wisconsin's CREP application to more nearly approximate the value of these lost production costs.

E144 Comment: (WPVGA, 3 farmers) This provision is much better than the last draft; however, growers should be compensated for any land taken out of production under this provision.

E145 Comment: (farmer) Putting in buffers could take 10% of my land. If we're taking this much land out of production, we should get paid for it. Most of us don't want to sell that good land. If it's not economical to farm, it should be put into houses.

E146 Comment: (farmer) The 70% cost sharing for riparian strips only covers a 4-year rental which is impracticable. The rules require farmers to put in strips 20-30 feet wide, and that can take up 5-10 acres out of production from a 140 acre farm.

Response: See response to comment E92.

E147 Comment: (farmer) Farmers with established buffers in drainage districts and agricultural shoreland zoning programs should be able to use those buffers as well. On the new buffers, that can be quite a bit of lost production land. You should have the ability to reimburse those farms for loss of production on that land.

Response: See response to comment E92.

E148 Comment: (CWC) We support the consensus recommendations made by the Agricultural Standards Work Group (Farm Bureau, the DNR, DATCP, River Alliance, producers) to create mandatory riparian protection zones along waterways running through agricultural fields. The compromise was endorsed by a coalition of more than 36 environmental and conservation organizations representing more than 100,000 Wisconsin citizens. We oppose the last-minute changes made to dilute the consensus recommendation by eliminating the need for an additional 30 feet of conservation farming practices when the slope is 2% or less. Removing the residue cover requirement will hurt the goal of reducing sediment loading to waterways, especially in heavy soil areas such as clay. Even a 1% slope will not enable sediment to stay on fields but will allow it to flow through the 20-foot buffer to waterways. We also oppose the use of berms as an alternative performance standard to vegetative buffers along drainage ditches. While they may slightly impede sedimentation, berms fall far short of the environmental benefits attained through the use of vegetative buffers. Berms may actually be detrimental to agriculture by backing up water into farm fields during springtime hindering the planting process.

E149 Comment: (WLWCA/WALCE, several counties, 2 individuals) Remove the last-minute insertion by the NRB into Table 1. This move to add a 20-foot option has no scientific basis and is in conflict with the consensus of the stakeholder work group assembled by the DNR to revise this standard.

E150 Comment: (LCD) The NRB's last minute changes to the standards are an unacceptable deviation from common sense and will undermine the ability of the state to use the standards to achieve the intended water quality goals. Their decision undermined the consensus-building process used to come up with agreeable standards. The 20-foot option for slopes less than 2% under NR 151.04 and the postponement of nutrient management standards under NR 151.07 must be deleted.

E151 Comment: (MEG) MEG is one of several dozen organizations that supported the compromise on water quality corridor buffers that was developed in the work groups this past year. That compromise was designed to provide flexibility for the crop and livestock producers, protect the availability of funding under the CREP program, and to provide a minimal area necessary to protect watersheds from agricultural runoff. Although we believe larger buffer areas are warranted, we agreed that this proposal provided a workable framework and interest. We are disappointed that the NRB allowed a 20-foot buffer with no additional conservation requirements. This does not provide adequate protection for runoff. We strongly

urge that the original rule language of Table 1 be reinstated. Throughout this process, the agricultural community has demanded "parity" with the urban communities. Note that NR 151.12(7) requires a minimum buffer in urban areas of 50 feet and unlike the agricultural performance standards, there is no cost-sharing requirement. We believe that it is both unwarranted and unfair to further scale back the buffer areas contained in NR 151.04, Table 1.

E152 Comment: (WI Env. Decade) We support use of a graded buffer zone standard for cropped fields, pastures and woodlots located within water quality management zones. We oppose inclusion of the 2% slope loophole for conservation practices adjacent to vegetated buffers that was inserted into Table 1 by the NRB at the last minute, despite the fact that these rules were developed by consensus among many different stakeholders. While we oppose the change on the basis that it violates the trust among stakeholders who participated in the redesign process, we also oppose this provision because it ignores the fact the 2% slopes, particularly in areas with fine soils (e.g., northeastern Wisconsin) may be erosive and thus may overwhelm a narrow buffer's sediment-trapping functions. This compromises the purpose of the buffers and does not reflect sound science. This provision represents little more than a political favor by the NRB to agribusiness interests. We ask the DNR to eliminate this provision and restore the rules to the originally agreed-upon language.

E153 Comment: (WAL) Minimum standards agreed to by the Ag Performance Standards workgroup have been weakened. Remove the 20-foot stand-alone buffer requirement.

Response: See response to comment E92.

E154 Comment: (ag. crop consultant) I assume that cases where the land next to a drainage ditch slopes away at greater than 2% would not apply to this performance standard.

E155 Comment: (farmer) About 90-99% of the land along drainage ditches is often elevated from years of cleaning so that no water enters the ditches from the fields. Make buffer strips mandatory only where water enters the streams and ditches.

E156 Comment: (farmer) In our area, almost everything has drainage ditches. These rules would require us to add buffer strips on each side of them. We have a 2% slope, but the slope is going back toward the field, not the stream. I farm 500 acres, mostly along ditches, and get everyone else's runoff. There's about 15 miles of ditches in that 500 acres; most of our fields are 30-40 acres maximum size, often with ditches on three sides of them.

E157 Comment: (farmer) There is no need for a buffer alongside man-made ditches with berms on the side and no water runoff from the croplands. I have about 3/4 miles of streambank and ditches on my farm that would need buffers under these rules, and 10-30 feet would mean 3 1/3 to 9 acres taken out of production. Cost sharing on things the rules require of farmers needs to be continuous because land is being taken out of production.

Response: See response to comment E92.

E158 Comment: (farmer) I have been told that we have to put a 20-foot buffer around all ditches in a drainage district. How is this going to work? Thirty years or so ago, we were paid to put in surface drainage ditches, and now they are telling us to close up the ditches.

Response: See response to comment E92.

E159 Comment: (farmer) Along the drainage ditches, are we going to be able to keep the trees out, or are we going to have to put trees there to keep the water from going into the drainage ditch? How will we be able to keep the willows out?

Response: See response to comment E92.

E160 Comment: (farmer) There is a problem with cleaning out stumps from drainage ditches. The DNR will let you take out the trees, but they won't let you take out the stumps, and when you get water running under those roots, you get a lot of erosion. We should be able to take out the stumps, grade the bank, and seed it down.

E161 Comment: (farmer) If I am not allowed to clean out the drainage ditch going through my property every 4 or 5 years, I lose about 6 acres of land every year. If we spread it back on the land with a Cat, and don't disturb the bank, I don't see why we can't clean it out.

Response: See response to comment E92.

E162 Comment: (NRCS) NR 151.04(3)(c) To be consistent with the previous definition this should read, "from the top of the channel for navigable waters."

E163 Comment: (Co. lake spec.) NR 151.04(3)(c) Change wording to: "from the top of the channel for waters rivers and streams."

E164 Comment: (LCD) NR 151.04(4)(c) The statement that the corridor is to be measured from the OHWM of lakes, reservoirs and wetlands, or from the top of the channel for waters is unclear. Should this read, "and from top of channel for other surface waters"? The state should better clarify its intent to buffer floodplain wetlands located adjacent to a navigable stream. The state should provide a figure or an illustration to clarify its intent.

Response: See response to comment E92.

E165 Comment: (LCC) All buffers should only be referenced in the performance standard table and not to NRCS Technical Standard 391. This is too confusing for both the farmer and the land conservation technician.

E166 Comment: (LCC) NR 151.04(3)(a) The table is a better guide to use for sediment and phosphorus reduction than NRCS Technical Standard 391I and should be used here and in NR 154.04(24)4.(d).

Response: See response to comment E92.

E167 Comment: (WI Env. Decade) During the most recent round of public hearings, testimony was presented that requested the use of "berms" as an alternative performance standard to vegetative buffers along drainage ditches. Although not contained in the proposed rules, we oppose the adoption of an alternative standard that is not based on sound scientific information. Berms, for example, would not serve the materials' cycling functions of riparian buffers. All riparian areas should have proper vegetative covers of a size that protects the waterway from erosion and other pollutants.

Response: See response to comment E92.

NR 151.05 Manure Storage Facilities

E168 Comment: (WI Cattlemen's Assn., WI Livestock Breeders) Cost sharing should be available to all operations up to 1,000 animal units (a.u.), especially for manure storage facilities. If you have less than 250 a.u. and expand to more than 300 a.u. or you increase the number of a.u. by 21% or more, you are ineligible for cost sharing. If a farmer is only running his/her operation at partial capacity and a profit opportunity presents itself, the farmer could find that he/she was ineligible for cost sharing.

Response: Cost sharing is still available for non-permitted operations under 1,000 animal units. The language was changed from "operations up to 1,000 animal units" to "permitted facilities". This issue is addressed in NR 154. The department cannot legally offer cost sharing to permitted facilities.

E169 Comment: (farmer) I agree with this standard.

Response: We acknowledge your comment.

E170 Comment: (WLWCA/WALCE, several counties) There is no reference to an implementation tool. Is it the state's expectation the county manure storage ordinances be initiated or updated to comply with this rule? If so, by when? If not, does the state intend to initiate a permitting system? This needs to be clarified.

Response: The implementation for this rule is described in NR 151.095. While the state hopes that the counties will update their manure storage ordinances, it is not mandatory.

E171 Comment: (LCD) The requirement to abandon a manure storage facility when manure has not been added or removed for 24 months could conflict with the 10-year operations and maintenance agreements on storage facilities that were constructed using county, state, or federal cost-share funding. The mandate to abandon in these situations would result in cost-share funds being used twice: first to build a structure, secondly to abandon the structure. It would be more reasonable to require a landowner to empty a storage

facility that has been idled for 24 months and still contains manure. It is not necessary to mandate abandonment merely based on non-use of the facility.

Response: The mandate to abandon manure storage facilities after non-use is based on the fact that rain water mixed with residual manure and surface and air pollutants can more easily contaminate ground water because the manure is no longer acting as a sealant on the structure's surface and because past experience has shown that maintenance on these structures to maintain integrity is most often lacking.

E172 Comment: (DATCP) NR 151.05. The proposed rule should not enumerate specific performance standards for manure storage facilities in addition to the Manure Management Prohibitions. Regulatory mechanisms and authority currently exist at the state level through NR 243 and locally within county manure storage ordinances and nuisance provisions. Should it be necessary to include these performance standards, NR 151.05 should be restored to the Jan. 2000 hearing draft with the following modification: NR 151.05(3). Abandonment of a manure storage facility shall occur when a livestock facility on the property ceases operation, or no manure has been added or removed from a storage facility for 24 months. The owner or operator can maintain a storage facility for a longer period by demonstrating that: (a) The facility meets technical and safety standards, and will be managed to protect against overflows or other threats to water quality; and (b) Retention of the facility is warranted based on anticipated future use.

Response: A performance standard is necessary because the manure management prohibitions only address the overflow or runoff of manure from manure storage facilities and fail to address groundwater impacts, general design, maintenance or operational requirements for manure storage facilities. Certain editorial changes were made to the performance standard language that are contained in the comment.

E173 Comment: (LCD) NR 151.05(4) This entire section should be deleted and should only be dealt with in technical standards, not administrative rule. Currently technical standards require 0.5 feet of freeboard plus enough freeboard storage to hold a 25-year storm event, which usually adds up to 1.0 feet of freeboard anyway.

Response: These provisions are necessary to establish criteria that will likely avoid situations that impair water quality. The EPA requirement on storage volume is that there be no discharge from a manure storage facility up to and including a 25-year, 24-hour event. The rule insures this. All storage structures with one foot of storage will not necessarily contain the 25-year, 24-hour storm event.

E174 Comment: (DATCP) NR 151.05(5). Add the following "...shall be upgraded, replaced or abandoned to meet..."

Response: We agree and added this language.

E175 Comment: (WI Env. Decade) This section should aid producers in the transition to more appropriate livestock and crop management approaches. Replacing manure storage facilities located in floodplains with other alternatives outside of the floodplain should be included in this section. As long as manure storage facilities exist within floodplains, the risk of water contamination remains unacceptable. If a storage facility must remain within a floodplain, then it is appropriate to require that they be able to withstand floods of a given magnitude (25-year, 50-year, or 100-year, etc.). DNR should recognize the risk that manure storage facilities in floodplains represent to public and ecological health and to include a phase-out and update provision for these facilities in this rule.

Response: This would be more appropriately covered in NR 116 and ch. 30.

NR 151.06 Clean Water Diversions

E176 Comment: (WI Cattleman's Assn., WI Livestock Breeders, farmer) This section can be difficult to comply with for many facilities. Every livestock operation has runoff that may reach waters at certain times of the year. Fields that were contoured for years may wash into waters where they have never washed before, especially in frequent storm conditions.

E177 Comment: (farmer) Clean water diversions from barnyards would be next to impossible to comply with. This really needs to be looked at to have some kind of animal numbers/units that could be exempt from this rule.

Response: The BMP designs that have been listed as cost-share eligible require the 25-year, 24-hour storm event be used as the maximum size requirement. While there may be cases where the 25-year, 24-hour storm event was exceeded and livestock lots and barnyards would discharge, it is unlikely that DNR would pursue enforcement action unless there were signs of mismanagement on the part of the owner. In cases where design alternatives could not achieve the diversion of clear runoff water from barnyards or livestock lots, variances are alternatives.

E178 Comment: (farmer) If the gutters or clean water diversions are damaged or destroyed by acts of nature after installation, the producer should not have to pay for replacement.

Response: NR 153 provides for 100% payment for damage caused by acts of nature beyond the control of the landowner. Normal maintenance and upkeep should be the owner's responsibility.

E179 Comment: (WI Cattlemen's Assn., WI Livestock Breeders, farmer) The term's "barnyard area" and "feedlot" are not defined, thus making it impossible to know the exact scope of this requirement.

Response: These terms are commonly used and should be understood by individuals in the livestock industry.

E180 Comment: (WI Env. Dec) This is one of the most important requirements of the proposed rules. Unfortunately, diverting clean water from livestock, feedlot and manure storage areas is only required within WQMAs.

E181 Comment: (3 individuals) Clean water diversions should be required for all livestock, feedlot and manure storage facilities and barnyard areas that drain into concentrated flow channels regardless of their proximity to WQMAs.

Response: The purpose of clean water diversions in WQMAs is to prevent discharges of pollutants from barnyard areas to surface waters. To require runoff diversions for all other barnyards and feedlots would incur an economic cost and management requirement that in most cases would provide no water quality benefit. In cases where runoff from feedlots and barnyards will discharge to surface waters, or to conveyance channels that will deliver pollutants to surface waters, the case can be made that this facility is in violation of the prohibition of direct runoff discharge to a surface water as stated in section NR 151.08(4). The facility would then be required to take corrective action.

E182 Comment: (LCD) This section should be changed to require the installation of clean water diversions on feedlots and barnyards in water quality management areas only when it can be shown by models or monitoring that there is a direct runoff problem to waters of the state which can only be corrected if clean water diversion practices are installed.

Response: We know from past experience that most feedlots and barnyards located in the WQMA will have direct runoff from storm events smaller than the 25-year, 24-hour event if clean water diversions are not in place. Variances are possible for those cases where a discharge would not occur, if variance criteria can be satisfied.

NR 151.07 Nutrient Management Performance Standard

E183 Comment: (UW Soil Science) NRCS technical standard 590, which is required for compliance with this performance standard, requires that UW Ext. Publication A2809 be followed. The recommendations are research based. There may be a number of circumstances where a grower may want to deviate from the recommendations. We have always suggested recommendations are an initial starting point and provide our best estimate of the quantity of nutrients to apply.

Response: The performance standard no longer specifies the technical standard needed to comply with it. This comment is more appropriate for DATCP and ATCP 50.

E184 Comment: (individual) It is not fair to expect farmers, who must use fertilizers in order to make a profit raising crops, to curb pollution caused by fertilizer application practices when city dwellers, who have much less reason to use these chemicals, are allowed to escape tighter regulation. Lawn-care companies routinely use a broadcast spreader, which results in the spreading of fertilizer onto sidewalks,

driveways, and roads. Allowing these companies to continue this widespread, careless practice is a very serious oversight.

Response: The rules will require owners of municipal and non-municipal properties over 5 acres to apply fertilizers according to a nutrient application plan that includes soil testing. For smaller properties there will be an information and education effort to encourage responsible use of lawn chemicals. This will be conducted at the local level with input from the state and educational experts.

E185 Comment: (farmer) If I spread manure on my pastures, I will need a nutrient management plan. The costs on my 835 acres is estimated to be between \$5,000 to \$8,000 or the equivalent of the sale of three to five \$1,500 bulls.

Response: Nutrient management plans on operations less than 1,000 animal units are cost sharable at the rate of \$6/acre the first year and \$4/acre for each of the following year up to a maximum of 4 years, which would cover the lower range of your estimate ($\$6 \times 835 = \$5,010$).

E186 Comment: (farmer) The recordkeeping will burden both the farmer and the fertilizer business, as every field, every 5 acres will need a separate record. All farm supply organizations will be required to guarantee nutrient management plans are followed.

Response: Lack of or improper record keeping often leads to overapplication of manure or commercial fertilizer to crops, that can result in more money being spent for commercial fertilizer and in groundwater and surface water impacts. Simple log sheets can be used to track where nutrients are applied and in what amounts. Existing operations are eligible for cost sharing to assist in the development of plans. Farm supply organizations are viewed as a resource for farmers and are expected to provide recommendations that comply with the nutrient management performance standard.

E187 Comment: (farmer) Don't set up a mandatory one-size-fits-all program--be flexible. The Universities of Illinois, Iowa, Michigan, and Minnesota have different recommendations, and sometimes they are a better fit than the UW recommendations. I had to follow UW recommendations to get a DATCP-certified nutrient management plan, but because I felt the UW potassium recommendation was too low for my high cation exchange soils, and that my system of fertilizer injection in a ridge planting system does not subject potassium to movement by rainwater and other crop management problems resulting from the recommendation, I do not have a certified nutrient management plan. Also, documented on-farm testing should be a valid alternative.

E188 Comment: (farmer) We have a different standard in Wisconsin than Illinois — their recommended fertility is higher than ours. If we are going to have to compete with other states as far as yields go, we will not have a level playing field unless we use the same standard.

Response: A component of the UW-Extension recommendations is the economic viability of attaining varying crop yields in Wisconsin. While farmers in other states may produce higher yields, the cost of fertilizer needed to achieve these yields often make the crops less profitable. Climate and soil type play large roles in determining yields and these factors vary from state to state. Wisconsin recommendations may be adjusted depending on soil type, expected crop yield and other factors that allow variation from the baseline nutrient recommendations. Generally, nitrogen and phosphorus are a greater water quality concern than potassium.

E189 Comment: (crop consultant) When nutrient management plans are required, the number of acres to be soil-sampled will increase dramatically (based on requirements to soil sample on 5-acre increments). There are many instances in which a 5-acre increment cannot be justified agronomically. On many farms, nutrient management has evolved into a mass balance equation and soil testing has become a check to verify that our equations and assumptions are correct. Agronomists need the flexibility to spend only as much time and money on soil sampling as the agronomic situation calls for. There are situations that call for a 2.5-acre sampling increment as well as situations that call for a 20-acre sampling increment. Wasting time and money on an outdated and inflexible sampling protocol will be counter-productive to the enormous task that lies ahead.

E190 Comment: (agricultural consultant) These rules include requirements to break up fields into 5 acres for decisions. These rules will cost operators more in the long-run. There should be flexibility in the

sample size for composite samples based on what the practitioner knows may be best for the operation. For example, in 2000, I pulled 1,300 soil samples on 40,000 acres. That is not a very aggressive sampling scheme, but I was dealing with uniform soils. It took 45 man hours. The 5-acre sampling rule would require 8,000 samples. Who will do all the work and write all these plans to accomplish the goals? As a company, we wouldn't be able to hire enough people.

Response: The 5-acre sampling protocol is included in NRCS technical standard 590 which is no longer referenced in this performance standard. DATCP is responsible for technical standards to implement the performance standards and will be citing them in ATCP 50. The workload will likely be spread out over time because of the limits on the amount of cost share funding available and because the performance standard has a phased-in implementation schedule.

E191 Comment: (MEG) NR 151.07(3). The wording of this section is potentially unclear because of a double negative. Subsection (3) provides, "any application of manure sludge not regulated in sub.(2)...shall be done in conformance with a plan..." Sub. (2), however, states, "This performance standard does **not** apply to industrial waste and byproducts regulated under ch. NR 214, municipal sludge regulated under ch. NR 204, and septage regulated under ch. NR 113." In essence, the items "not regulated in sub.(2)" and, therefore, subject to nutrient management plans are those in the enumerated sections. That is clearly not the intent of sub.(3). The intent is to avoid double regulation of those materials. I would recommend changing the language in (3) to provide "any application of manure or sludge not regulated under chapters NR 113, NR 204 and NR 214,...."

Response: Language in sub. (3) was deleted to eliminate confusion.

E192 Comment: (LCC) We propose continued voluntary implementation of nutrient management plans. There are not enough consultants or farmer trainers to help with nutrient management planning.

Response: The nutrient management requirement has a phase-in schedule that should provide enough time for training and for adding more staff to meet the demand that the performance standard will create.

(Comment cont'd.) Nutrient management is an important concept but very difficult to enforce as a performance standard.

Response: The department currently regulates nutrient management at animal feeding operations with 1,000 animal units or more. Compliance is based on review of documents to ensure that proper planning and record keeping is being done as well as field observations to determine if setback distances, incorporation requirements and other practices specified in the nutrient management plan are being followed. We expect that other involved governmental agencies would pursue similar efforts for other crop and livestock operations to determine compliance with this performance standard and we recognize that a limited number of operations are likely to be inspected in any given year. However, should a governmental agency become aware of an operation that is impacting water quality as a result of failing to comply with this standard, the performance standard can be used as another tool to correct the impact.

E193 Comment: (farmer) We feed about 1,200 Holstein steers a year. We have 2 feedlots that drain into 2 different watersheds. I'm concerned about the nutrient management plan requirements because:

- (a) The plans are expensive to write and impose absurd record keeping.
- (b) The extent and frequency of soil testing demanded is impractical for my farm.

Response: See response to comments E186, E189 and E190.

(c) Variations in livestock diets, weather and moisture conditions, and type and amounts of bedding make testing wasteful. Even worse is the history of manure spreader calibration, as it's inaccurate about 40% of the time.

Response: Nutrient management is not an exact science but more of a process by which data are collected and planning is completed to ensure that nutrients are used properly. Outside of mandatory setback distances and other specified landspreading restrictions, nutrient management plans are flexible documents that can help address variability at an operation. Checks and balances are present as part of a nutrient management plan to address variability, typically over a crop rotation. For example, variability in manure nutrient content and landspreading equipment is balanced by soil tests.

(d) General recommendations have been tormented into becoming rules, which don't always fit specific farms.

Response: The performance standard creates a statement of what an agricultural operation needs to do to protect water quality. There is further flexibility within the technical standards in ATCP 50 to address differences between operations. By working with state and local agencies, operations can determine how best to comply with the performance standards. In cases where the performance standard absolutely cannot be met as it is written, there are opportunities for a variance under certain circumstances.

(e) Manure is not waste; it is a welcome and valued recyclable product of livestock feeding. Manure is an environmentally friendly source of time-released nitrogen, potassium, sulfur, organic matter, and a very stable form of phosphorus. Properly applied, it will protect soil from water and wind erosion, crusting, drying, and improves the soil's tilth, enabling it to soak up and hold water for crop needs.

Response: We agree that manure is a valuable product. Improved soil health is one of the benefits of a properly implemented nutrient management plan.

(f) Wisconsin ranks fifth in the nation in cattle slaughter. By making cattle feeding less economical, these rules will also likely hurt the slaughter industry and take away jobs.

Response: Existing operations are eligible for cost sharing to meet the performance standards.

(g) The nutrient management requirement imposes economically devastating pre-emptory regulations without validated research. These phosphorus application limitations are not founded on proven research involving all commonly used management systems. If implemented, a phosphorus standard would inflict very great economic hardships on my family and many livestock based family farms. Just the possible risk of being in jeopardy of environmental regulators will make it more difficult, if not impossible, to maintain adequate financing as lenders shy away from the potential problems of disproportionate rules forced by the environmental zealots.

(h) I have been a no-till farmer for 20 years. Rules mandating the incorporation of manure strike me as the most anti-conservation measures imaginable. They even contradict my conservation plan.

(i) These rules will cause me to buy more nitrogen, which is the only fertilizer I buy. If I can't use all of my manure to meet my nitrogen needs, my farm will be less sustainable. If soil fertility standards are to be used, let them be on the crop needs factored to a farm's highest yield and a crop's genetic potential, plus increased annually while indexed to higher levels according to historic yield increases.

Response: Many of the requirements mentioned in the comments refer to technical standards that were removed from NR 151 and are contained in proposed ATCP 50. The nutrient management performance standard was modified to include greater water quality protection in watersheds containing waters impaired by nonpoint sources (on the 303(d) list), and waters ranked as ORW or ERW (ch. NR 102). Nutrient management plans in those areas will need to include management options that will not potentially increase the nutrient of concern in the receiving waters. However, these requirements, along with nutrient management planning for source water protection areas, do not go into effect until 2005 for existing croplands.

E194 Comment: (CWC) We are not persuaded by the industry-funded study cited by golf course and turf managers and are opposed to a blanket exemption for this group from complying with nutrient management planning. Golf courses utilize nutrient management plans to reduce the costs associated with chemical fertilizer and pesticide applications. The industry claims that the nutrient management plans utilize more restrictive standards than those required in the proposed rules. If the science supports this industry claim, the DNR should consider revising the standard for golf courses and the turf grass industry. However, that should not in any way negate the need for mandatory nutrient management plans for this industry.

Response: There will be no exemption from nutrient management planning for golf courses. All non-municipally owned properties that use fertilizers on 5 or more acres of pervious surfaces will need to apply them in accordance with a plan. The development of a technical standard to address this performance standard will help clarify how individual properties will meet the standard. It may be that

what golf courses are currently doing is acceptable. However, until the technical standard is written this will not be assumed.

E195 Comment: (individual) The building of manure storage facilities will create more problems than they solve, especially if it involves liquid manure. Regardless of how well designed and managed they are, malfunctions and accidents happen. Every large fish kill and major pollution problem that I have heard of that is manure-related has involved stored manure — I've never heard that fresh spread manure, even on frozen ground, to be a cause. Stored manure can also kill humans.

E196 Comment: (farmer) To know that you are trying to implement expensive winter manure storage and handling, when we have just completed 2 years of excessively low farm income prices, is a severe blow. We implement a nutrient management plan and knife in stored manure from our milking herd. Manure from our heifer facility must be hauled daily. Winter storage would cost about \$200,000, and we have no way to fund this type of investment. Even our bank is downsizing.

Response: Manure storage will only be required if it is needed to comply with other performance standards or prohibitions (e.g., lack of adequate land where manure can landspread during the winter). In addition, existing operations that require manure storage will be eligible for cost-sharing from 70–90% of eligible costs, depending on the economic status of the operation. The department has been investigating incidents involving animal feeding operations since the mid to late 1980s. There have been a number of incidents where overapplication of manure or winter landspreading of manure has resulted in fish kills. The application of liquid manure on inappropriate areas (areas next to surface waters) can result in long-term water quality impacts as the manure and associated nutrients runoff into streams. As with any practice, manure storage facilities must be properly designed and operated. Rarely, if ever, has a well designed, maintained and managed manure storage facility resulted in water quality impacts.

E197 Comment: (farmer). How will farmers get maximum economic yield after limiting fertilizer rates?

Response: UW demonstrations have shown that crediting manure and legumes reduces the need for commercial fertilizer and results in increased economic return in the majority of cases.

E198 Comment: (WISPIRG) We like requiring nutrient management plans for any facility over 1,000 AU, any facility or farm wanting cost sharing or tax subsidies, any facility to be built in a watershed impaired by nonpoint, any facility in a priority watershed, and any facility that has been cited one or more times for pollution.

Response: The nutrient management performance standard applies to all agricultural operations that apply nutrients to agricultural fields.

E199 Comment: (LCD) A large percentage of landowners in our county are currently utilizing good nutrient management practices. We conducted 2 training sessions on how to do nutrient management plans without a consultant. We also have numerous consultants in the county, working mostly with large farms, and we can implement the nutrient management activities in a few years.

Response: Depending on local efforts, typically at the county level, certain areas of the state are ahead of others in terms of compliance with the performance standards and prohibitions. The department supports the concept of adequately trained producers creating their own nutrient management plans.

E200 Comment: (farmer) An independent soil consultant did some soil testing for us, and we followed his recommendations. In the first year, my fertilizer costs were cut in half. The fertilizer and chemical industries do not have justifiable conclusions on how much to apply and are pushing their products too much. Seed companies publish handbooks from universities that require pounds of potash on fields after the first and third crop. We don't use half of the recommended amount on our farm. These companies don't care about the environment; all they want to do is sell their products and make money. The farming industry is in bad enough shape, and farmers just don't need these rules. You should require nutrient management plans for fertilizer sales people before you require it for the farmer.

E201 Comment: (farmer) Nutrient management plans need to be flexible to allow for unforeseen weather events, or for demonstrated crop needs.

Response: The nutrient management performance standard is the standard that is most likely to result in economic benefits for agricultural operations. As indicated in the comment, this performance standard is expected to have the benefit of reducing fertilizer costs for farmers. In addition, the rules provide for cost sharing to comply with the standard for existing operations. While the department recognizes that recommendations from producers and sellers of fertilizer are a source of information for farmers when they make crop production decisions, it is ultimately the farmer who determines how the crops are grown; therefore, it is the farmer's responsibility to comply with the standard.

E202 Comment: (WAL) This performance standard does not apply to industrial wastes, municipal sludge and septage, but the cumulative impacts of all such spreading must be considered when developing a nutrient management plan.

E203 Comment: (MEG) It is critical that DNR continue to work with DATCP to ensure that the land application of biosolids is not subject to double regulation under the nutrient management plans. Proposed NR 151.07(2) appropriately addresses biosolids and other nutrients regulated under NR 113, 204 and 214.

Response: In order to avoid double regulation of these materials, the nutrient management standard does not apply to municipal sludge and septage (and industrial wastes and byproducts). While the regulations that apply to municipal sludge and septage are not identical to the performance standard, both regulations are intended to be protective of water quality. Operators should take into account how the different regulations for the materials they spread on their fields affect how their crops are managed.

E204 Comment and response C68 (WAL) regarding maintenance period apply to this section.

E205 Comment: (farmer) These rules are doable, but they are certainly not cheap. I did soil testing on 300 acres with many different soil types, the biggest field being 10 acres, with strips up to ½ mile long. With 5 samples from each field, the cost was \$300 to hire the testing lab, plus a cost per soil samples of \$5.60. We had to pay \$300 to dig 7 test holes, and we had to get state soil engineer to do the work. The resulting structure we had to build, a manure reception tank, cost \$23,000.

Response: See comment E193(f).

(Comment cont'd.) Part of a nutrient management plan is to try and not spread manure on high-phosphorus fields. That requires equipment to do this. We're talking serious economic impacts on farmers at a time of low commodity prices.

Response: See response to E193(g)

E206 Comment: (DATCP) The provisions of NR 151.07 contain an excessive amount of technical requirements for agricultural producers. DATCP has the legal authority to establish technical standards for the nutrient management program [s. 92.05(3)(L)]. DNR should minimize the nutrient management performance standard provisions and reference the technical requirements in proposed ATCP 50.

E207 Comment: (WI Agri-Service Assn., WI Pork Producers, WPVGA, WI State Cranberry Growers). Much of the detail needs to be deleted from NR 151. These requirements should more appropriately be codified in ATCP 50.

E208 Comment: (WPVGA, farmer) This provision is unnecessary because nutrient management plans will be covered under the performance standards in DATCP's rules. Professional crop consultants have testified that the number of soil samples required is unrealistic for the nutrient management plans, and should be adjusted accordingly, if the provision remains in the final rule.

E209 Comment (farmer) The requirement to adopt NRCS Standard 590 needs more work. This requirement will be costly and ineffective.

Response: DNR acknowledges that DATCP has the authority to create the technical standard to meet the performance standard and have removed them from the nutrient management standard.

E210 Comment: (DATCP, 2 ag co-ops, 2 labs) The provision that laboratories certified under NR 149 must carry out soil/nutrient analyses should be deleted. NR 149 does not apply to agricultural nonpoint

source pollution, but addresses total pollution extraction of hazardous substances in industrial and municipal wastewater. DATCP is responsible for this process and reference should be made to ATCP 50. **E211 Comment:** (UW soil science & UW Soil & Forage Analysis Lab.) NR 151.07(4) NR 149 specifies procedures and quality assurance practices for various waste materials or environmental contaminants. It is not intended nor does it address some aspects of a well-conceived soil testing laboratory program.

E212 Comment: (ag. lab.) This provision was not from the last public hearing—it came out of nowhere without any contact being made with certified labs in the state offering soil analysis for agricultural purposes. ATCP 50.50 discusses soil testing.

Response: The department has deleted the reference to NR 149 and replaced it with a reference to a laboratory certification program approved by the department. We do not believe that DATCP has the authority to administer a laboratory certification program for soils and our intention is to revise NR 149 as needed to accommodate the soils tests required.

E213 Comment: (DATCP) This section refers to NR 154.04(22) that indicates compliance with a requirement that is not indicated in the 590 standard or UW recommendations: "The landowner or land operator agrees in writing to maintain a minimum horizontal separation distance of 250 feet in all directions from any potable well, non-potable well, reservoir or spring when spreading manure, injecting manure or applying manure by other means." The 590 standard indicates manure spreading restrictions "within 200 feet upgradient of sinkholes, creviced bedrock at the surface, or other direct conduits to the groundwater, such as gravel pits and wells" unless incorporated or injected within 72 hours.

Response: The reference to NR 154 was removed from NR 151.07 but is maintained in NR 154.04(22) as a condition of cost-sharing. NRCS standard 590 does not currently address all possible impacts to groundwater associated with landspreading of manure. The department maintains that the conditions associated with wells, reservoirs and springs provide a much needed area of protection, primarily for human health and the use of water as drinking water.

E214 Comment: (farmer) We try hard to follow our 590 plan, but sometimes it's impossible because of two weeks of straight rain in the summer.

Response: We assume the comment refers to an operation that daily hauls their manure. Flexibility can be built into a nutrient management plan that would allow for temporary manure stacking on approved sites when conditions don't allow entry to fields.

E215 Comment: (farmer) Regarding the limit of 75 pounds of phosphate per acre unincorporated, my 300 cows will require 240 acres for spreading manure for me to be in compliance with the regulations (estimated based on 75 pounds of manure per day from a 1250 pound cow, 0.34 pounds of phosphate/75 pounds of manure, 0.8 acres required to spread manure from one cow, in a six-month feeding period a cow will produce 61.2 pounds of phosphate).

Response: While it is no longer referenced in NR 151, NRCS FOTG Standard 590 Nutrient Management (Mar. 1999) allows manure to be applied, if incorporated, at a rate greater than 75 pounds of phosphate per acre, up to the nitrogen recommendation for the crop. The limit of 75 pounds of phosphate per acre applies to available phosphate. It appears that the comment includes calculations based on book values for total phosphate which will be higher than available phosphate. If incorporation is not a choice, other options include lowering the amount of phosphorus in the feed ration to reduce manure phosphate levels and manure analysis to determine actual levels of available phosphate in the manure.

E216 Comment: (farmer) You need to make 590 plans simple enough for farmer to use them.

Response: The department concurs. Farmers will need to work with the drafter of their nutrient management plans to ensure that they understand the plans.

E217 Comment: (farmer) Cost sharing needs to be continuous, not just for short period of time to implement, but throughout life of plan.

Response: Much of the cost associated with the plan is the up-front cost of developing the plan, with concurrent years being maintenance efforts that are less costly. Given that the plans will likely result in savings resulting from decreased fertilizer use, a four-year cost share period is deemed appropriate.

E218 Comment: (farmer) Most of my pastures (for rotational grazing) are on slopes over 9%. If I have to stay 1,000 feet away from the 16 man-made farm ponds on my land, 14 of which go dry on an average summer, it will reduce much of the total acreage on which manure can be spread.

Response: The nutrient management performance standard only specifies that manure be landspread in accordance with a nutrient management plan. The actual restrictions placed on land application of manure is contained in the technical standard(s) developed by the DATCP under ATCP 50. The nutrient management performance standard does not apply to manure deposited directly from animals grazing on pastureland. However, other performance standards or prohibitions may apply to grazing animals (e.g., maintenance of adequate sod cover on streambanks and lakeshores). Under certain circumstances a pasture may, in actuality, be a feedlot (see response to comment N57) and other performance standards or prohibitions may apply (e.g., no direct runoff from a feedlot to waters of the state).

It is difficult to make a blanket statewide determination when it comes to applying requirements to farm ponds. Determining whether or not farm ponds are considered waters of the state and thus warrant setbacks or incorporation requirements will likely need to be made on a case-by-case basis. Additional clarification cannot be included in the performance standard regarding the status of farm ponds.

E219 Comment: (farmer) For a rotational grazing situation consisting of several paddocks on which manure could potentially be spread, it seem ridiculous to do a nutrient management plan for each one.

Response: This is an issue that should be addressed by the technical standard for developing a nutrient management plan which is under the purview of the DATCP. If the paddocks are managed in a uniform manner, it would seem reasonable that the plan could identify a group of paddocks as one field rather than creating a nutrient management plan for each paddock. See response to comment E218.

E220 Comment: (farmer) In rotational grazing situations, if manure is spread on pastures late in the spring after all the frost is out of the ground, the animals refuse to eat the forage. If the manure is hauled before the first of March the animals eat the forage normally on the first rotation. The manure cannot be incorporated because it would tear up the pasture.

Response: In this situation, fully utilizing row crop fields, if available, for manure application and using pastures only as needed should be a consideration. If the operation is not producing row crops, other options would need to be considered as part of the nutrient management plan. Under most rotational grazing situations, reasonable surface application of manure without incorporation would be possible.

E221 Comment: (farmer) The proposed regulations are very ambiguous concerning nutrient management in rotational grazing situations and farm ponds. The proposed initial cost sharing of 70% to build the facility for storing and/or composting manure is a small cost compared to the annual cost of operation (purchasing and maintaining the necessary equipment, additional labor). This will increase the cost of production and slowly bankrupt this type of operation. One alternative would be to ban any beef feeder cattle operation that is of an economically viable size from wintering cattle in the driftless area of Wisconsin. The state would then adjust the property taxes accordingly.

Response: Additional language was added stating that the nutrient management performance standard only applies to the application of nutrients (manure or commercial fertilizer) that are not directly deposited from the animal. The cost sharing provisions were modified to include payment for reasonable in-kind contributions such as labor and equipment (excluding normal maintenance). See response to Comment E228 regarding farm ponds.

E222 Comment: (WI Livestock Breeders, WI Cattlemen's Assn.) NRCS Standard 590 states that no manure can be spread on a 9% slope without being incorporated. It does allow spreading on slopes of 12% providing these slopes are laid out in contour strips.

Response: While the performance standard no longer references the technical standard, the prohibition in 590 on landspreading on highly sloped fields applies only to landspreading on frozen or snow covered ground and is not a general prohibitions.

E223 Comment: (WI Livestock Breeders, WI Cattlemen's Assn.) If you do not have the financial wherewith-all to come up with the 30% cost sharing, you are going to totally eliminate western Wisconsin from raising livestock. This land is much better suited to raising livestock than it is to raising row crops. Requiring manure storage while the ground is frozen is expensive. Additional equipment will be required to handle stored manure—additional expenses.

E224 Comment: (WI Cattlemen's Assn.) Spring hauling of manure equals compaction and increases the chance of runoff. There needs to be a better alternative to this requirement.

Response: Not all operations will require manure storage. Manure storage would typically be required when an operation has insufficient land available for winter landspreading. An operation may have enough land suitable for winter land application of manure so that only a portion of the manure must be stored. Manure storage could take the form of many types of structures, including stacking pads that would not necessarily require the purchase of new equipment but may require management changes. The rules also have allowances for providing up to 90% cost-sharing in case of economic hardship. Key determinations such as appropriate BMPs and cost-share eligibility will be made between agricultural operations and state and local agencies. We recognize that individual performances standards have trade-offs. However, when implemented as a complete set at an operation, the performances standards and prohibitions can result in significant water quality improvements. Also, the reasonable value of a farmer's in-kind contribution (e.g., labor, equipment) to meet the performance standard is eligible for cost sharing.

E225 Comment: (WI Cattlemen's Assn.). Your assumptions that manure needs to be incorporated into the soil once it reaches 75 lbs. of phosphorus per acre or that when it is spread on a 9% slope are not documented. The requirement of a nutrient management plan does not guarantee improved water quality.

Response: The comment refers to requirements in NRCS Standard 590, March 1999, which are generally viewed as excellent bases for sound conservation practices, which lead to better water quality. The technical standard to meet the performance standard is now contained in ATCP 50, not NR 151.

E226 Comment: (farmer) If you try to spread manure on pasture hay, you can't incorporate it. You're going to kill the pasture, and you're going to kill the hay. The rules regarding the farming practices are pushing people to no-till. But if you're no-tilling, how are you going to incorporate? You're going to have to find some place else to put your manure and then buy fertilizer to put on your fields.

Response: The comment refers to the nutrient management technical standard 590 that only requires incorporation in certain areas (within a 10-yr floodplain or 200 feet of streams, rivers or lakes, whichever is greater, within 200 feet upgradient of sinkholes, creviced bedrock or other direct conduits to groundwater, or when applying more than 75 lbs of available P_2O_5 /acre/year). It does not require application of manure on pasture or hay fields. Changes were made to the water quality corridor performance standard in order to address concerns regarding tillage practices and incorporation requirements. There are a number of ways operations can comply with the performance standards and prohibitions, depending on the land base available to operations.

E227 Comment: (TU) Animal waste must be managed—no spreading on frozen ground, no spreading on areas without buffers around all areas of concentrated flows, no spreading when the NWS forecast for potentially heavy rainfall within 24 hours. All spreading to be incorporated into the soil within 24 hours.

E228 Comment: (tech. college ag instructor) Allow a farmer who can prove a higher yield to use higher amounts of nutrients to produce that yield. I work with some farmers on sandy loam soil who have traditionally produced 150-180 bushels of corn per year. They apply around 150-180 units of nitrogen per acre. Under the current proposed system, the soil type indicates the farmer can only apply 120 units of nitrogen. This farmer will be hurt for being a good steward of the land and improving the soil so it can produce more product per acre. This means the farmer will lose profits. I believe exceptions must be made for farmers who have improved their soil productivity and are able to produce more product per acre than the soil type indicates.

Response: Specific practices, such as the amount of N required for proper field production, are more appropriately contained in a technical standard (codified in ATCP 50) designed to outline practices intended to meet a department-promulgated performance standard.

E229 Comment: (UW Soil Science) A summary from 101 experiments over a 10-year period confirms current corn nitrogen recommendations and the economic and agronomic advantages of fully crediting N from legumes and manure. Crediting increased gross economic returns of \$15/acre to \$37/acre depending on the favorable corn:N price ratio that was used. Observed optimum N rates were higher than the recommended N rate at only 2 of the 101 sites, indicating that the current recommendations provide an adequate or more than adequate amount of N for corn production at high yield levels.

E230 Comment: (UW NPM Program) Analysis of six years of nutrient management demonstration results from farms cooperating with NPM program staff shows that where nitrogen credits from on-farm resources were utilized, average yields have been very similar to fields where they were ignored. Production costs, however, have been significantly lower when commercial fertilizer applications have been reduced to reflect nutrient credits. Production costs were \$0.17 per bushel lower for the credit (BMP) fields and average profit (based on gross margins) was \$20 per acre higher. The economic return from the adoption of BMPs looks favorable in the vast majority of the NPM demonstrations. Economic return from the application of these management practices on a whole-farm basis will likely differ significantly from individual plot results (i.e. more time and management skills may be required of the farmer, new or improved equipment may need to be purchased). These expenses could overshadow savings from input costs.

Nutrient and pesticide expenses are usually a small component of an overall farm enterprise budget, particularly for livestock operations. Crop inputs typically account for only 3-10% of the total annual farm expenditures on Wisconsin livestock farms. Educators and others must use caution to not oversell the economic advantages of improved management practice adoption. The water quality protection potential along with any regulatory compliance features must be coupled with economic incentives when promoting the improved management of agricultural resources.

Response: DNR supports the use of nitrogen credits as a means to meet the nutrient management performance standard and recognizes that the economic benefits of nutrient management planning may vary. Cost sharing is intended to provide additional economic incentives for nutrient management.

E231 Comment: (farmer) A good way of spending government money is to give free soil testing. It's amazing how many farms do not need to apply fertilizer and are still applying it. If you do not buy any starter fertilizer, I'll bet that yields are above average for the county. The rules make it mandatory to sample, but we'll pay for it. No one will look at those results and then go out and buy fertilizer.

E232 Comment: (farmer) Years ago, SCS had good programs for soil fertility that helped with liming, etc. Farmers had an incentive to do these things. We've lost these programs.

E233 Comment: (WISPIRG) As plans are costly, the state should pay at least 70% of the cost.

Response: The department concurs that soil sampling is a key component of nutrient management planning. As a part of implementation of the performance standards and prohibitions, technical assistance can be obtained from government agencies (county LCDs, NRCS). For existing operations, cost-sharing provisions also cover eligible costs of nutrient management planning (which includes soil sampling) for a period of four years. In addition to cost-sharing, savings resulting from decreased fertilizer use identified through nutrient management and associated soil testing may be considered an incentive by many producers.

E234 Comment: (crop consultant) We develop plans because of local ordinance requirements or WPDES permit applications where cost sharing is not involved. The fiscal estimates and impact on small businesses suggest that estimated implementation costs of specific nutrient management planning components are under-funded regularly. Cost share rates across various counties has consistently been under 50%. That money has been available on a very small portion of the acreage in any county. My concerns: 70% cost sharing, the complexity of the rules and the broadness, and underfunding. The figures that the WI Corn Growers have thrown out are approaching \$80 million annually. The department should prioritize what they would like to see done with these rule changes. Clearly define the most important items and come up with a scheme that will gain political support and fund priorities and also set some timelines of when you would like to see those objectives delivered and to what extent you would like to see them delivered.

Response: The department recognizes that the costs associated with implementing performance standards and prohibitions, including nutrient management, are significant. The rules also require that

cost-sharing be provided to existing operations for 70% of eligible costs prior to requiring compliance with the performance standards and prohibitions. While some operations are already in compliance and others will comply voluntarily, there will still be a significant number of operations that will require cost-sharing to ensure compliance. Given limited budgets to provide cost-sharing and the fact that the department does not control how much is ultimately set aside for implementation, it is impossible for the department to specify implementation timelines. The performance standards and prohibitions do provide an important vehicle to address water quality improvements from agricultural operations. The nutrient management performance standard was modified to reflect water quality priorities identified by the department (impaired waterbodies, outstanding or exceptional resource waters).

E235 Comment: (tech. college ag instructor) A nitrogen-based standard should be used instead of phosphorus-based in nutrient management plans. The N standard has not been in place long enough to know if it will be the solution to the problem. Time is needed and studies need to be done to determine the effectiveness of the N standard.

E236 Comment: (LCC) It should be clarified that the current NR 151.07 schedules are nitrogen-based. There is no strategic planning for phosphorus-based nutrient management.

E237 Comment: (WI Env. Decade) We support the use of nutrient management plans as a means of more closely targeting nutrient application rates for agricultural lands. We support use of phosphorus-based nutrient application standards.

E238 Comment: (WI Pork Producers) NR 151.07(3) appears to be moving us to a phosphorus standard.

E239 Comment: (farmer) Nutrient management should be nitrogen-based before moving to phosphorus. Optimum soil test levels are too low. Application rates for phosphorus should be on a rotational basis, not yearly rates.

E240 Comment: (farmer) Test reports on an area that was woodland until about 2 years ago show excessively high phosphorus levels. We're breaking ground to convert this land to farmland while a neighboring township is assessing woodlots to convert to residential development. When it comes to applying nutrients from our livestock operation, we're going to have a problem because phosphorus will be high. If 590 goes to a phosphorus-based system, we're going to have a large problem.

E241 Comment: (farmer) Phosphorus-based nutrient management plans is a concern. NPM is the way we need to go, but there are too many things we don't understand about phosphorus management plans, like how to utilize them. We need more research prior to implementing phosphorus targets before we know the total impact it will have. Wisconsin is taking a stance that's moving us closer to EPA's goal of requiring nutrient management plans by 2010, which is very positive. By 2005, phosphorus impaired areas will be required to have nutrient management plans, by 2008, everyone will need to have them.

E242 Comment: (farmer) Phosphorus movement has not been studied enough. We haven't looked at cost of reducing use of phosphorus on the animal and crop industries. Issuing a regulation doesn't make things work. Mother Nature, basic science, and cropping patterns determine if things will work.

E243 Comment: (WAL) Phosphorus control is key to taking care of the lakes. Right now there is no requirement to test for phosphorus. Phosphorus should not be applied above crop needs, especially near waterways. The rules state that 77% of state already tests high for phosphorus. At such high concentrations, potent fertilizer does end up in lakes. Soils should be tested for phosphorus in urban areas and fertilizer used only where needed. There's no reason to delay implementation of this part of the rule.

E244 Comment: (crop consultant) Referencing the March 1999 590 standard would have the effect of ignoring new research and technologies in the field of nutrient management. UW recommendations will likely change as the science of nutrient management advances. UW recommendations that are fully up to date should be the standard used.

Response: See responses to comments E193(g), (h) and (i).

E245 Comment: (chemical co) We propose nutrient management and runoff control options to include soluble phosphorus, hence nutrient-inactivation. This would include, but not limited to, phosphorus precipitation in storm and runoff control facilities where soluble phosphorus levels are, or have the potential to be, high based on soil type, previous manure application, etc. This would include dredge spoil ponds where disturbing phosphorus rich sediments results in a soluble phosphorus-rich supernatant return stream. Support for the farmers using nutrient inactivation is possible through "credit" under the

phosphorus indexing procedure. Recognizing insoluble phosphorus does not present serious environmental challenges, the reduction of soluble P is accommodated in the "source" category. Lower soluble P lowers the source, thus more manure can be applied for its nitrogen value. Along with the agronomic value of using the product, this manure management benefit is an incentive to the farmer.

Response: DNR is generally not supportive of the use of amendments since they merely mask the presence of a pollutant and do not address the addition of a pollutant to receiving waters. Approval of such amendments would have to be considered as part of the technical standard for nutrient management or runoff control systems.

E246 Comment: (farmer) I cannot understand why farmers cannot write their own plans. I know my fields and what they need. I have a degree in soil science, yet I would have to pay a co-op \$6.00-\$10.00 an acre to write a plan. Change to a producer program like the pesticide training program our state has.

E247 Comment: (farmer) It's important that there is a mechanism that allows producers to develop their own nutrient management plans. I would advocate a system in which DATCP created and administered a certification program. Under this system, if I took a test and demonstrated through that test that I have the knowledge and expertise to devise the plans, then I should be able to produce the plans on my own. This plan would assure the state that a producer has sufficient knowledge, and will also allow the person who knows the land the best to create the nutrient management plan in a manner that is ecologically safe and economically sound.

E248 Comment: (tech. college ag instructor) Farmers should be able to write their own nutrient management plans. If farmers let chemicals, fertilizers and poisons into their land or water, they and their families will be one of the first affected, both personally and economically.

E249 Comment: (farmer) Farmers can do nutrient plans—no costs involved, just time. It's common sense.

E250 Comment: (So. Fork Hay project mgr.) We require active participation of the farmers, if possible, to try to convince them of the value of their time to do soil samples, sending them in, and working with them to do the analysis and writing of a final plan. A farmer using prior soil samples and his knowledge took about ½ hour to complete this year's nutrient management plan.

E251 Comment: (farmer) A farmer should be allowed to write his own nutrient management plan if he's qualified. Cost sharing for the nutrient management plan should be paid to the farmer in an amount equal to whatever cost sharing would go to the farmer who hires someone to write the plan.

Response: We understand that allowances for farmer created plans are contained in ATCP 50.

E252 Comment: (WI Livestock Breeders, WI Cattlemen's Assn., WI Pork Producers) Since NRCS 590 is still the applicable standard, you will be unable to apply more than 75 pounds of phosphorous per acre without incorporating within 72 hours. This means you are required to have at least 1,232 acres of land for each beef animal that you own on which you spread manure unless you incorporate the manure. One 1,000 pound beef cow generates approximately 60 pounds of manure per day, 34 cows generate a ton of manure per day and one ton of manure equals 8.4 pounds of phosphorous. If you happen to have beef cows rather than feeder cattle, how are you going to incorporate their manure? How are you going to incorporate manure in the winter? What if you intensively graze cattle? Does the item that requires a nutrient management plan be included on every field on which a farmer applied nutrients apply to producers that graze cattle? This section should not apply to the wintering of beef cows. If it does not apply to grazing cattle, then say so.

Response: We no longer specify NRCS Standard 590 in our rule. Language was added to specify that the nutrient management performance standard does not apply to manure directly deposited from an animal on grazing/pasture land. The performance standard does apply to land where manure or fertilizer is landspread via a spreader or other mechanical means. While this section may not apply to wintering of beef cows, other performance standards and prohibitions may apply that are designed to address runoff from areas where livestock is concentrated.

E253 Comment: (agricultural crop consulting) Increasing the length of time cost sharing is available from 3 to 6 years will improve the chances that performance standards are not only initiated but also continued. The question is how much cost-share money is available and how will it be allocated? Cost-

share opportunities in southwest Wisconsin are limited. Grant County has a lot of 303(d) waters yet the only funding for nutrient management, \$1,400 for the county, came from DATCP. In northeast Wisconsin, substantial funding is provided to develop nutrient management plans largely through EQIP funding. According to DATCP, 10 to more than 15% of the crop acres in Door, Brown, Outagamie and Waupaca Counties have formal nutrient management plans, while the rest of the state has from 0-10%, indicating that when cost sharing is provided, the performance standards will be implemented. Cost sharing should also be available to all farmers regardless of number of acres or animal numbers.

Response: Nutrient management will be cost shared for 4 years only (3 years plus 1 year extension), because limitations on TRM projects restrict DNR from making longer payments. Under the statute, cost share under s. 281.65 (TRM) cannot be used for large livestock operations required to have a WPDES permit under chapter NR 243. For the eligible operations, several funding sources (federal, state, local) will be needed because the type of state funds (general purpose revenue) needed for this type of activity is very limited.

E254 Comment: (WI Cattlemen's Assn.) Nutrient management planning requirements must be phased in rather than be required immediately upon rule adoption.

E255 Comment: (individual) Move up the schedule to protect drinking water resource areas and polluted waterways before 2005. We know enough about these waterways that we can move that up to 2003. In Dane County, about 60% of the wells with livestock facilities on the site and 40% of wells in the Lake Mendota watershed exceed the federal nitrate standards.

E256 Comment: (ag crop consultant) The proposed phase-in schedule for complying with performance standards by 2005 for 303(d) waters, exceptional resource waters and source waters is optimistic as is the 2008 projection for all cropland in Wisconsin to meet DNR/DATCP performance standards. The state needs to be realistic in setting these goals without any significant funding in place.

E257 Comment: (LCC) If nutrient management is mandated, pick one date for the entire state to implement. Different dates for different parts of the same county to implement the same performance standard is imply not practical.

E258 Comment: (MEG) The 7-year phase-in added by the Natural Resources Board is unwarranted. We propose that if there is to be a phase-in, that the period should be substantially shorter. At the very least, nutrient management plans should be required immediately for all new cropland practices. Any croplands located within watersheds containing outstanding or exceptional resource water or waters on the 303(d) list should have plans in effect within one year and other croplands no more than three years.

E259 Comment: (WLWCA/WALCE, several counties) Remove the last-minute insertion by the Natural Resources Board for delayed applicability of the nutrient management performance standard.

E260 Comment: (individual) As with all standards, phase-in is already guaranteed through limited cost-sharing availability. The justification that we need more time to allow for educating farmers is an insult to their intelligence and to all professionals who have been teaching nutrient management in workshops and in the field for decades.

E261 Comment: (Co. lake spec.) I disagree with the specified delayed implementation of this important standard. Limited cost-sharing dollars will automatically guarantee delayed implementation.

E262 Comment: (individual, River Alliance, Sierra Club, TU) We urge the DNR to oppose delays in implementing nutrient management plans and to support a requirement in the original rules that all cropland must have nutrient management plans when the rules go into effect. We need to do this now, not 7 years from now. These plans are very cost effective.

E263 Comment: (CWC) We support the immediate implementation of the requirement for development and use of nutrient management plans. Nutrient management plans are valuable economic tools for farmers maximizing the use of livestock waste and providing an alternative to costly chemical fertilizers. Last-minute changes were made to the consensus recommendation of the Agriculture Standards Workgroup that would delay implementation for seven years. We oppose any delay in implementation.

E264 Comment: (wastewater utility). We support instituting nutrient management plans, but oppose any delays in implementing them.

E265 Comment: (WISPIRG) We support rapid implementation of nutrient management plans. We cannot wait 7 years.