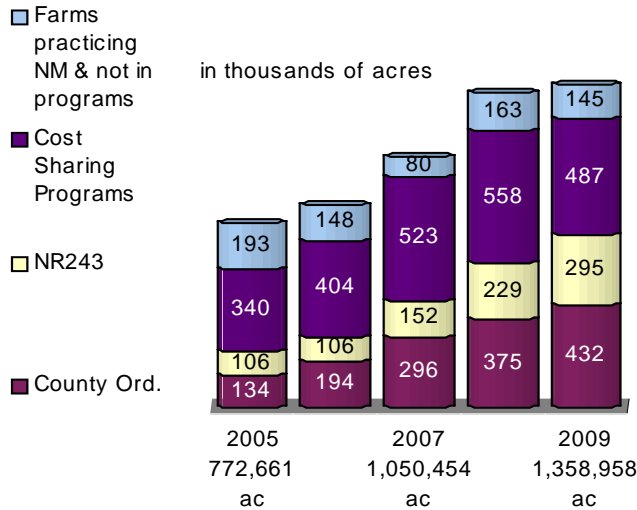


# WISCONSIN NUTRIENT MANAGEMENT UPDATE

& Quality Assurance Team Review of 2009's Nutrient Management Plans

## 2005-2009 Nutrient Management Plan Acres



The following counties showed the greatest increase in NM acreage between 2008-09.

County	Increase of Cropland with NM plans (ac)
Kewaunee	47,231
Fond du Lac	40,432
Dodge	32,831
Clark	31,606
Manitowoc	29,326
Marathon	27,408
Door	23,013

\* Polk, Eau Claire, La Crosse, Shawano, and Brown Counties increased NM plan acres any where from 10,000 to 20,000 acres.

The following counties have more than 30% of their cropland under NM plans.

County	Percent of Cropland with NM plans
Brown	71%
Door	66%
Kewaunee	63%
Marathon	47%
Shawano	41%
Manitowoc	39%
Iron	39%
Fond du Lac	38%
La Crosse	34%
Outagamie	33%
Marinette	33%
Clark	32%

### Who are writing the plans?

**618 farmers** wrote their own plans on 180,681 acres in 2009; 213 more farmers and 78,053 (76%) more acres than in 2008. Farmers are writing 22% of the total plans compared to 15% of last year's plans.

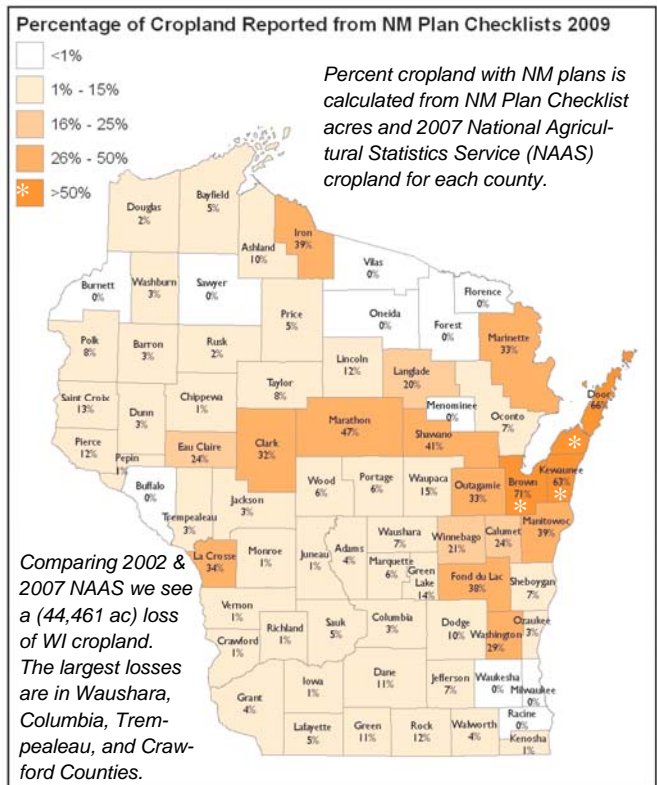
**207 agronomists** were hired by farmers to assist them with NM planning. Agronomists reported 1,143,089 acres from 2,251 plans or 78% of the total plans written, very little change from 2008.

Another 35,188 acres were reported from farmers purchasing bulk fertilizer or not participating in any programs.

The DATCP tracks **progress of nutrient management (NM)** planning through bulk fertilizer suppliers and NM Plan Checklist forms submitted by farmers, agronomists, and public agency staff. Suppliers of bulk fertilizer to WI farmers reported **3,131** plans covering **1,358,958** acres in 2009. This amounts to 15% of WI's cropland and about the same as last year's 1,324,001 acres. NM Plan Checklists were submitted for 64 counties in 2009, as compared to 54 counties in 2006.

For the last 14 years, the Quality Assurance Team (QAT), comprised of agency and private nutrient management specialists, has conducted quality assurance reviews of NM plans. We are seeing substantial compliance with the NM performance standard for the plans we reviewed this year. Overall the plans are improving their compliance with the NRCS 590 NM Standard when we looked at: meeting T for tolerable soil loss, following the N recommendations, showing wells, and showing spreader calibrations.

*The QAT reviews current year plans written mostly by previously un-reviewed NM planners with the goal of improving planning and stewardship of our soil and water*



43 counties reported more NM acreage in 2009 than in 2008. Notably, Marathon County again reported more than any other county with 136,179 acres, followed by Brown 107,833 acre, and Fond du Lac 96,962 acres.

# 2009 Quality Assurance Team (QAT) NM Plan Review Compliance Summary

The results of the 2009 QAT review of 20 NM plans are discussed in the context of previous planning years and overall trends in NM planning. As plans improve and come under more scrutiny by non-farm neighbors, our review of NM plans has become more critical. The 2009 plans are more complete than in past years; now they include soil loss to T and P management across the rotation.

Snap Plus computer software helps achieve compliance with meeting acceptable soil loss levels, P balancing, and N application limits. In 2009, only 5 of the 20 plans reviewed did not use Snap Plus, and 4 of those plans were farmer written.

*Other tips to help planners meet 590 are listed below.*

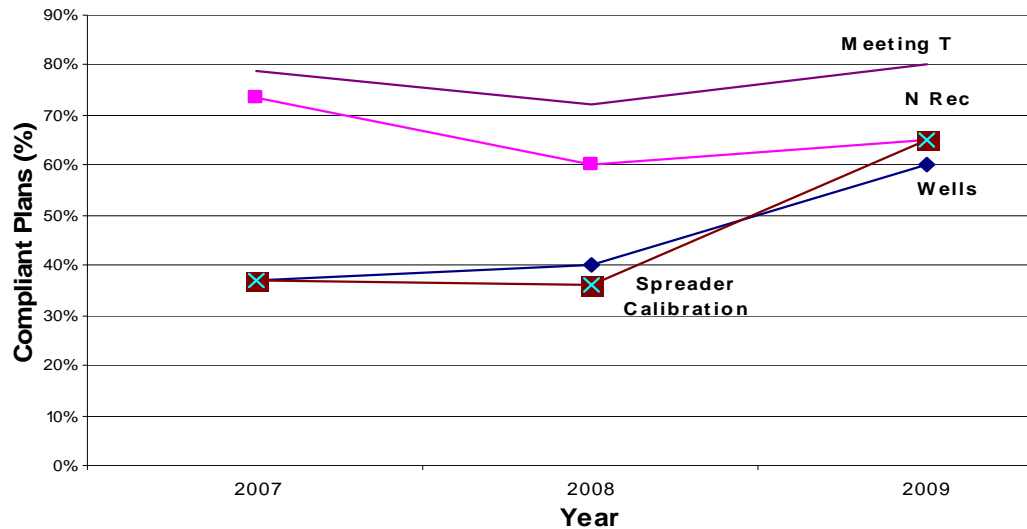
## Soil Erosion

80% (16 of 20) plans had every field meeting **tolerable soil loss** (T), an 8% improvement from 2008. Updating the NM plans with the nutrient applications and crop management that really occurred, allows the farmer to maintain compliance with the 590 NM standard. In 2003, only 60% of the plans were cropped at T or less.

50% of plans mentioned they protected areas of **concentrated flow** with perennial cover, a 38% decline from last year.

*Tip: Mention waterways on maps or in the narrative. With Snap Plus, farmers and planners are able to update crops and tillage and calculate soil loss over the crop rotation, making it an excellent tool for conservation planning. Snap Plus NM software is available free of charge from <http://www.snapplus.net/> and it can help planners meet 590.*

## Improved NM Plan Components



## Spreader Calibration

65% (13 of 20) plans mentioned using calibrated manure applications to account for application speed and manure consistency, a 29% improvement over 2008. Contact your UWEX or conservation office for assistance with spreader calibration.

*Tip: Use manure production book values when establishing the nutrient management plan. Subsequent plans should track all manure applied by counting loads or storage volume.*

*Snap Plus allows you to record & use spreader calibrations, pit volumes, and nutrient sources in the Nutrient Sources & Cropping Tabs.*

## Soil Testing

If we strictly follow the 5 acre requirement for every field, only 50% of the plans comply, a 10% decline from last year. We have made progress however. In 1995, only 33% of the plans reviewed were properly testing their soils.

## Maps & Spreading Restrictions

60% (12 of 20) of the plans mention **well** restrictions, including those of neighbors, a 23% improvement from 2008.

45% (9 of 20) of plans included spreading restrictions for **surface waters**, a 35% decrease from last year. New to the 2009 planning season were the Nutrient and Manure Application Restriction Maps available for all of Wisconsin. These maps, developed by NRCS, are free, available online, and include many of the nutrient spreading restrictions found in the 590 Standard. Four plans had maps provided to them by the local conservation offices that were missing information. It is hoped that more planners and NM trainers will use these maps for the 2010 planning season to improve compliance. Other mapping issues included not transferring field boundaries, IDs, and acres to maps. 11 of the 20 plans did not explain or tie back to the plan the surface water spreading restrictions shown on the maps.

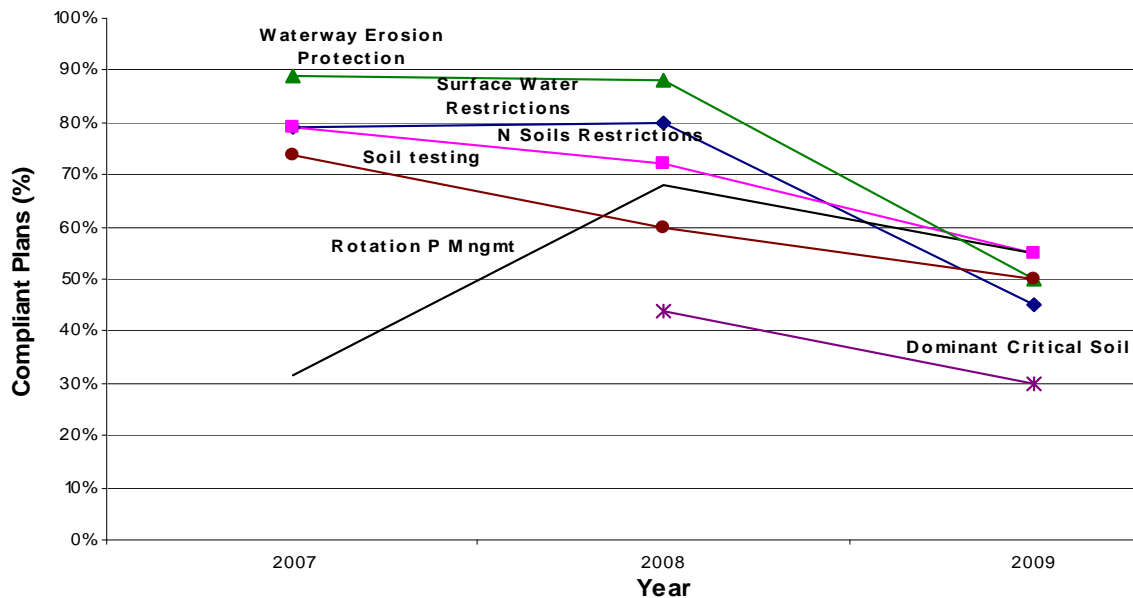
*Tip: Visit <http://www.manureadvisorysystem.wi.gov/> for more information and to download maps free of charge.*

## 2009 QAT Members

Paul Backhaus – Washington Co LWCD	John Hying – Landmark Services Coop.	Ursula Petersen – DATCP, Madison
Jon Bahrke – Winnebago Co LWCD	Jim Kaap – NRCS, Madison	Sue Porter – DATCP, Madison
Chris Baxter – UW Platteville	Paul Kaarakka – UW Madison, Soil Science Dept	Stephanie Schneider – Dairyland Laboratories
Andrew Craig – WI DNR, Madison	Paul Kivlin – UW NPM	Wayne Solinsky – Jay-Mar, Inc
John Easter – Jay-Mar, Inc	Matt Luther – Rock River Laboratory	Sara Walling – DATCP, Madison
Ken Helt – Premier Coop.	Rachel Mueller – Cornerstone Crop Consulting, LLC	Laura Ward Good – UW Madison, Soil Science Dept
	Jeff Osterhaus – Osterhaus Ag LLC	Ben Wojahn – Vernon County Land Conservation

# 2009 QAT NM Plan Review Compliance Summary

## NM Plan Components Needing Improvement



## Soil Type

Unlike last year we looked at every field of every plan to check if all fields correctly selected the soil. 30% (6) of the (20) NM plans used proper soil type.

**Planners need to select the most erosive “dominant critical soil” that covers 10% or more of the field to properly calculate soil loss and ensure future crop productivity.**

## Spreading Restrictions

55% (11 of 20) of the plans correctly **identified N soil restrictions**. If these soils are present anywhere on the field, N applications should be limited according to Criteria B of the 590. The criteria must be followed even if it is not the selected dominant critical soil type used for planning purposes.

65% (13 of 20) of plans properly explained **winter spreading restrictions**, a 19% decrease from last year. Only 3 of the 7 plans not explaining the winter restriction had applications that did not follow the map. The 590 standard restricts winter spreading on steep slopes and close to surface waters. Fields not in these areas can have winter applications, but liquid applications are limited to 7,000 gallons/ac and cannot exceed the next year’s crop P removal.

*Tip: Even if the farmer does not intend to winter apply, planners should still identify safe places to go with manure in the winter that will not exceed rate restrictions.*

*Tying the map restrictions to the plan applications is extremely important. Tagging field restrictions to applications should become easier with some of the new features coming to Snap Plus in Spring 2010. The new features should reduce application errors.*

## Phosphorus Management

The 590 standard requires planners to address the entire crop rotation for P applications and meeting T.

Not all planners are accustomed to this change. 55% of plans (11 of 20) included P management for each year of the crop rotation, a 13% decrease from 2008, when the P-based standard became effective everywhere in WI.

**To accurately assess P management, Wisconsin planners must account for all the manure produced annually and allocate additional P fertilizer if applicable for each year of the rotation.**

*Tip: Change information to what really happened in the prior crop year and plan forward to ensure compliance. Keeping an application log makes it easy to update plans.*

*Snap Plus keeps track of soil-banked P & K between soil tests on the Cropping Screen so farmers do not apply more than they need.*

*Tip: If DuC2 covers more than 10% of the field, even though DuB is the soil type covering most of the field, you should select DuC2 to protect the steeper, more erodible soil.*

## Nitrogen Applications

65% of plans (13 of 20) had every field **meeting N recommendations**, a 5% improvement from last year. Remember that N applications are for a single year and cannot exceed UW recommendations (UWEX Pub. A2809). Snap Plus will flag excess applications, helping to reduce this problem, by turning the application red in the cropping screen.



*Tip: A quick check to see if your fields are exceeding N recommendations can be done by printing the Field Data and 590 Assessment Plan Report. Fields with N applications in excess of UW recommendations for any year will show at the top of the report.*



# ***NUTRIENT MANAGEMENT IN WI***

## **What is a Nutrient Management Plan?**

A nutrient management (NM) plan is an annually updated record that follows the USDA Natural Resources Conservation Service's 590 Nutrient Management Standard, 2005. A NM plan accounts for all N-P-K nutrients applied, and planned to be applied, to each field over the crop rotation. Soils need to be tested by a DATCP certified laboratory every 4 years, with each field sampled every 5 acres. A NM plan manages nutrient applications to *maximize* farm profitability while *minimizing* degradation of both surface water and groundwater.

## **When is Nutrient Management Required?**

In 2002, the Depts. of Natural Resources (DNR) and Agriculture, Trade and Consumer Protection (DATCP) promulgated regulations requiring all farms that mechanically apply nutrients to have a NM plan that accounts for all nutrients applied to each field and to control soil erosion. A number of other water quality performance standards related to manure management are also included in the regulation.

In 2007, DATCP's regulations, ATCP 50, was amended to require following the 2005 NRCS 590 Nutrient Management Standard, which manages both N & P applications to reduce runoff. As of January 1, 2008, all farms can be required to implement nutrient management if:

1. required by local manure storage or livestock siting ordinances;
2. participating in the Farmland Preservation Program or the new Working Lands Initiative;
3. regulated by a WPDES permit;
4. accepting cost share for manure storage; or
5. causing a discharge.

Other farms not falling under these requirements can be compelled to follow a NM plan if 70% cost sharing, of \$28/ac to cover 4 years, is offered.

## **Emerging Issues**

In 2009 & 2010 DNR will be in the process of **re-opening NR 151 Wis. Admin. Code** to revise and add additional requirements for the water quality performance standards posted at <http://dnr.wi.gov/org/nrboard/agenda.html> under Nov. 13. Some things being proposed are:

- Requiring the use of the WI Phosphorus Index with an **annual Phosphorus Index limit of 10**. Check your Snap Plus plans in the bottom row of the Cropping Screen. You might find your fields with corn silage have annual P Index levels that might exceed 10, especially in unglaciated WI.
- Creating pollution limits using a **total maximum daily load (TMDL)**. TMDLs are required on impaired water bodies by the federal Clean Water Act. This is the amount of a pollutant a water body can receive and still meet water quality standards. An owner or operator of a nonpoint source pollutant, shall implement management practices designed to meet the load allocation in a US EPA and state-approved TMDL. A TMDL establishes the amount of pollutant reduction needed from each source to meet water quality goals. A list of impaired waters in Wisconsin is available on the DNR's web site <http://dnr.wi.gov/org/water/wm/wqs/303d/2008/2008Updates.htm>. It appears that if a TMDL is established for a particular water body and if that TMDL requires a lower nutrient load than another performance standard within the proposed rule, then the owner or operator must abide by the more stringent TMDL allocation.

You can provide comments to the code revisions during the public hearing period this winter.

## **DATCP Certified Soil Testing Labs**

### [UW Soil & Plant Analysis Laboratory](#)

Madison, WI  
(608) 262-4364

### [UW Soil & Forage Lab](#)

Marshfield, WI  
(715) 387-2523

### [AgSource Cooperative Services](#)

Bonduel, WI  
(715) 758-2178

### [Rock River Laboratory](#)

Watertown, WI  
(920) 261-0446

### [Dairyland Laboratories](#)

Arcadia, WI  
(608) 323-2123

### [A & L Great Lakes Laboratories, Inc.](#)

Fort Wayne, IN  
(260) 483-4759

### [SGS Mowers Soil Testing Plus, Inc.](#)

Toulon, IL  
(309) 286-2761

## **Wisconsin Qualified Planners:**

1. American Society of Agronomy *Certified Crop Advisors* and *Professional Agronomists* and Soil Science Society of America *Soil Scientists* see <https://www.soils.org/certifications/>;
2. National Association of Independent Crop Consultants *Certified Professional Crop Consultants* see the following website <http://www.naicc.org/Dir/bystate.cfm?c=wi> ;
3. *Farmers developing their own NM plans* and submitting a NM Checklist form to DATCP.

## **Nutrient management information and forms**

can be found at: <http://www.datcp.state.wi.us/arm/agriculture/land-water/conservation/nutrient-mngmt/>

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