What are WI’s NM Rules & Programs?

**EQIP** - USDA NRCS cost share program

**NR 243** – WPDES permit federal CAFO regs June 2007

**NR 151** - Water quality performance standards 2002
  open again to add Total Maximum Daily Load provisions for nutrients

**ATCP 50** - Add N&P-based 590 std. June 2007

**ATCP 51** – Sets livestock siting standards May 2006

**ATCP 40** – Requires bulk fertilizer sellers to ask purchasers if they have a NM plan for tracking NM progress (1,050,454 acres in 2007 ↑ 3% from 2006). Exempts distributors of manipulated manure from fertilizer tonnage fee if applied to fields practicing NM.
Nutrient Management - What’s New?

• One 590 standard for Livestock Siting, EQIP, County manure storage ordinances, and NM Perf. Stds.

• More state funding $6.5 million annually for NM

• 1 million acres NM plans reported in 2007

• Snap Plus 1.122.4 (Nov. 19)
  – Estimates sheet and rill soil erosion rates
  – Gives a record keeping system for past and present applications
  – Calculates risks with the Wis. P Index and P & K crop input/removal balances
Why would a farmer want a NM plan?

– Helps track crops, nutrient needs, and nutrient applications by field which helps maximize profitability

– Reduce runoff risks and minimize groundwater and surface water degradation while protecting the soil from erosion

– Reduce liability A farmer is presumed to comply with the NM law if the farmer complies with their NM plan that is prepared or approved by a qualified NM planner other than the farmer

• Qualified planners are CCA’s, CPAg, SSSA, CPCC, farmer planners
When Are Producers Required to Have a Nutrient Management Plan?

- When offered [70%] cost-share for NM
- When accepting manure storage cost-share
- When participating in farmland preservation program
- When regulated under a county ordinance for manure storage or livestock siting
- When regulated under a DNR WPDES permit
- Are required to prevent or mitigate imminent harm to waters of the state as an emergency or interim response to a grossly negligent pollution discharge

NM planning can be required everywhere in WI after January 1, 2008
2007 Nutrient Management Plan Acres by Program

<table>
<thead>
<tr>
<th>Program</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNR</td>
<td>66,741</td>
</tr>
<tr>
<td>DATCP</td>
<td>67,288</td>
</tr>
<tr>
<td>USDA</td>
<td>388,372</td>
</tr>
<tr>
<td>Co. Ord</td>
<td>285,590</td>
</tr>
<tr>
<td>Voluntary</td>
<td>36,324</td>
</tr>
<tr>
<td>WPDES</td>
<td>151,682</td>
</tr>
<tr>
<td>Siting</td>
<td>10,346</td>
</tr>
</tbody>
</table>

Total Acres: 1,006,242
Livestock Siting Ordinances ATCP 51

Local governments who choose to regulate livestock siting after May 2006 must require state standards and incorporate them in ordinance.

- Animal Units
- Odor Management
- Nutrient Management
- Waste Storage
- Runoff Management
Farmland Preservation Program

(ATCP 50)

• About 19,000 farmers
• Tax relief claims of about $12 million/yr
• Average credit $650/yr
• Contracts after 2004 or Exclusive Ag Zoning participants MUST follow performance standards, including NM
Water Quality Performance Standards
(NR151 & ATCP 50)

County LWRM Plans
Voluntary -- Cross Compliance -- Enforcement

• Close to water divert clean water around feedlots
• Close to water no unconfined manure piles
• Construct manure storage facilities to standards
• No overflowing manure storage facilities
• No direct feedlot runoff
• Restrict livestock to maintain cover near water
• Control erosion to meet tolerable soil loss (T)
• Apply nutrients to crop needs limiting nutrient delivery potential
### WI Cropland Acres by Region

<table>
<thead>
<tr>
<th>Region</th>
<th>2006-2007 NM Acre Change</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>nc</td>
<td>65,593</td>
<td>39%</td>
</tr>
<tr>
<td>ne</td>
<td>108,396</td>
<td>26%</td>
</tr>
<tr>
<td>nw</td>
<td>44,960</td>
<td>30%</td>
</tr>
<tr>
<td>sc</td>
<td>56,344</td>
<td>41%</td>
</tr>
<tr>
<td>se</td>
<td>15,682</td>
<td>17%</td>
</tr>
<tr>
<td>sw</td>
<td>-4,974</td>
<td>-14%</td>
</tr>
</tbody>
</table>

### WI Cropland Acres by Region

- **SW**: 1,436,577 acres (16%)
- **NC**: 1,053,291 acres (12%)
- **SE**: 1,210,998 acres (14%)
- **SC**: 1,505,100 acres (17%)
- **NW**: 2,288,211 acres (25%)
- **NE**: 1,432,318 acres (16%)

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**Nutrient Management Regions**

- **SW**: Southwest region
- **NW**: Northwest region
- **NC**: North Central region
- **NE**: Northeast region
- **SE**: Southeast region
- **SC**: South Central region
% County Cropland in Nutrient Management 2007

<table>
<thead>
<tr>
<th>County</th>
<th>Region</th>
<th>2007 NM reported acres</th>
<th>% of county cropland in NM plan</th>
<th># NM Plans change from 2006</th>
<th># Acres in NM change from 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARATHON</td>
<td>nc</td>
<td>108,771</td>
<td>38%</td>
<td>188</td>
<td>43,974</td>
</tr>
<tr>
<td>BROWN</td>
<td>ne</td>
<td>89,612</td>
<td>59%</td>
<td>37</td>
<td>10,009</td>
</tr>
<tr>
<td>FOND DU LAC</td>
<td>ne</td>
<td>56,530</td>
<td>22%</td>
<td>16</td>
<td>10,040</td>
</tr>
<tr>
<td>OUTAGAMIE</td>
<td>ne</td>
<td>56,146</td>
<td>30%</td>
<td>24</td>
<td>18,467</td>
</tr>
<tr>
<td>SHAWANO</td>
<td>ne</td>
<td>53,494</td>
<td>33%</td>
<td>62</td>
<td>30,430</td>
</tr>
<tr>
<td>CLARK</td>
<td>nw</td>
<td>53,018</td>
<td>20%</td>
<td>3</td>
<td>5,768</td>
</tr>
<tr>
<td>MANITOWOC</td>
<td>ne</td>
<td>40,759</td>
<td>22%</td>
<td>6</td>
<td>-5,950</td>
</tr>
<tr>
<td>OCONTO</td>
<td>ne</td>
<td>33,549</td>
<td>27%</td>
<td>16</td>
<td>6,344</td>
</tr>
<tr>
<td>KEWAUNEE</td>
<td>ne</td>
<td>34,645</td>
<td>27%</td>
<td>-8</td>
<td>-1,320</td>
</tr>
<tr>
<td>DOOR</td>
<td>ne</td>
<td>33,432</td>
<td>41%</td>
<td>48</td>
<td>8,048</td>
</tr>
<tr>
<td>WINNEBAGO</td>
<td>ne</td>
<td>25,249</td>
<td>22%</td>
<td>3</td>
<td>3,862</td>
</tr>
<tr>
<td>MARINETTE</td>
<td>ne</td>
<td>22,753</td>
<td>31%</td>
<td>11</td>
<td>8,294</td>
</tr>
<tr>
<td>WASHINGTON</td>
<td>ne</td>
<td>21,119</td>
<td>22%</td>
<td>6</td>
<td>1,358</td>
</tr>
</tbody>
</table>
Plan Review
What’s in a NM plan?

- UW Soil test Crop need – nutrient credits = fertilizer to apply

  - Accounts for all N-P-K nutrients for the crop rotation

  - Based on UW soil test recommendations (Pub.A2809) with sampling every 4 yrs (UW Pub. A2100, certified lab)

  - Update annually to NRCS 590 NM Std. to feed crops and protect water
Do NM plan maps show?

NM Checklist Part C. 1.

a) Field boundary and ID?

b) Areas where nutrient applications are prohibited? fields eroding above tolerable T rates, grassed ww, unfarmed areas

c) Areas within 50 feet of drinking wells where mechanical manure applications are prohibited?

- grazing OK, incorporated fertilizer OK

12/19 plans missed wells
d) 590 & local winter spreading restrictions? No additional local winter restrictions for livestock siting unless ordinance requires to protect public health & safety

6/19 plans missed winter restrictions
1 spreading on 16% slope

Do not apply nutrients:
• To fields greater than 9% slope, 12% if contoured
• Within 1000’ of lakes, ponds, or 300’ of perennial streams
• At rates greater than P removal of the next crop and liquid manure rates can not exceed 7000 gallons per acre
• BE CAUTIOUS on fields with concentrated flow in 1/3 of the area
Get soils & topo maps

On Web Soil Survey
Do NM plan maps show?

**NM Checklist Part C. 1.**

e) Wells, sinkhole, surface bedrock, tile inlet...
   - Do not apply nutrients unless incorporated within 200 feet upslope of direct conduits to groundwater in 72 hrs

f) Limit nutrients to mainly spring for soils likely to leach nitrate (close to bedrock, water table, highly permeable, and within 1,000 feet of municipal wells)
   - Soils listed in Appendix 1 of the Conservation Planning Technical Note **UPDATED 4-20-07**

4/19 plans missed “The N soils”
NM Checklist Part C. 2.

Are soil erosion controls implemented so the crop rotation will not exceed T according to the conservation plan or Snap Plus?

– See your conservation office
– http://www.snapplus.net/

3/19 plans exceeded T
NM Checklist Part C. 3.

Are soil samples collected according to *Sampling Soil for Testing* UW Pub. A2100 and analyzed by a DATCP certified laboratory within the last 4 years?

At a cost of about $.50/ac/year soil sampling is an important item to determine if nutrients are needed. Fertilizer could cost $100/ac/yr.

Sampling Pattern for a 15 Acre Field

Each sample should be composed of at least 10 soil cores.

5/19 plans did not have adequate # of soil samples.
NM Checklist Part C. 4.

Are planned nutrient applications consistent with UW Pub. A-2809 *Soil Test Recommendations for Field, Vegetable and Fruit Crops*, and the 2005 NRCS 590 NM standard?

5/19 plans had excess N ranging from 36 to 200 lbs./ac

– Credit all nutrients applied towards soil test recommendation for crops to be grown
NM Checklist Part C. 5.

Do manure production estimates correspond to acreage needed in the plan?

6/19 plans did not include amount of manure (produced, collected, or how and when applied.

Incomplete plans could leave planners open for liability issues because plans were not specific as to how nutrient needs will be met.
NM Checklist Part C. 6.
Is a single P strategy uniformly applied to all fields within a tract?

BIGGEST PROBLEM 14/19 plans did not address all P applications for the rotation (up to 8 yrs)

P and K applications can be combined into a single app. to supply the crop rotation’s needs if it does not exceed 590

- Follow annual UW soil test P recs for the fields receiving only commercial fertilizer
- Follow UW soil test N recs of non-legume crop include N from all sources
- Follow the P Index target of 6 or less or use the soil test P for fields receiving manure during the crop rotation
  - < 50 PPM, N needs
  - 50-100 PPM P, balance
  - > 100 PPM P, 25% less than crop rotation’s removal
Farms with only fertilizer and no manure can not exceed P&K soil test recommendation but can combine applications into a single application.
Are areas of concentrated flow, resulting in reoccurring gullies, planned to be protected with perennial vegetative cover?

3/19 plans did not show / mention waterway protection
NM Checklist Part C. 8.

Will nutrient applications on non-frozen (within 300’ perennial streams, 1000’ from lakes & ponds SWQMA) use 1 or more of the following to reduce acute runoff?

In addition, if unincorporated liquid manure is applied, limit rates & wait 7 days or use Table 1 description. DO NOT APPLY on saturated soils. DO NOT ALLOW manure runoff.

4/19 plans did not identify these spreading restrictions

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Surface Texture Class and Proper Moisture Description</th>
<th>Max Application Rate gal/acre</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>&lt; 30%</td>
</tr>
<tr>
<td>Fine</td>
<td>clay, silty clay, silty clay loam, clay loam</td>
<td>3000</td>
</tr>
<tr>
<td></td>
<td>Apply when soil ribbons between fingers</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>sandy clay, sandy clay loam, loam, silt loam, silt</td>
<td>5000</td>
</tr>
<tr>
<td></td>
<td>Apply when soil is pliable and forms ball</td>
<td></td>
</tr>
<tr>
<td>Coarse</td>
<td>loamy sand, sandy loam, sand, peat, and muck</td>
<td>7000</td>
</tr>
<tr>
<td></td>
<td>Apply when soil forms ball and breaks easily</td>
<td></td>
</tr>
</tbody>
</table>
How Can WI Increase NM Implementation?

1. Promote compliance through cost-sharing - technical assistance - education

2. Monitor plans periodically for the Farmland Preservation Program participants and county ordinances

3. Continue communications with agronomists for plan development and annual updates

4. Continue farmer training programs for plan development and annual updates