



Manure Management Advisory System (MMAS)

Tool 1: Accessing WI "590" Nutrient and Manure Application Restriction Maps on the Web

On-farm nutrient management begins with a good understanding of field-specific soils and their ability to accept nutrients and manure for optimal crop production while protecting water quality. Nutrient and Manure Application Restriction Maps show where, when, and how much manure can be applied within Wisconsin state rules (2005 Wisconsin NRCS 590 Nutrient Management Practice Standard). Providing easily accessible maps that depict areas best suited to receive nutrients will benefit both farmers and the environment.

These maps are available for free on-line for the entire state for use by planners, producers, and manure applicators. Please visit the website below for more information and to download maps.

<http://www.datcp.state.wi.us/arm/agriculture/land-water/conservation/manure-mngmt/index.jsp>

RESTRICTION MAP SPECIFICATIONS:

- Each individual map covers one section (one square mile)
- Contained in GeoPDF® file format which allows user editing, drawing, querying, and printing options. To download the free toolbar to enable these features, please visit: <http://www.terragotech.com/solutions/geopdftoolbar.php>
- Maps contain several layers that users can turn on/off:
 - NAIP 2005 ortho-photo
 - PLSS Section Boundary
 - Roads
 - 24K Hydrography, including Lakes/ponds, perennial streams, intermittent streams, Surface Water Quality Management Areas (SWQMA) for those water features
 - soil survey mapping unit boundaries, including Nitrogen restricted and slope restricted soil types
- The 590 Nutrient Management Practice restriction areas identified on the maps are:
 - 1) Soil mapping units with slope restrictions; C slopes are labeled as "Winter Restrictions (if slope > 9%)"; D+ slopes are labeled as "No Winter Application (slope > 12%)",
 - 2) Soil mapping units with nitrogen application restrictions (labeled as "Fall N Restrictions"), and
 - 3) Surface Water Quality Management Areas (300 ft from perennial streams, 1000 ft from lakes/ponds) are labeled as "SWQMA (No Winter Application, Other Non-Winter Restrictions)".

For more information about **Nutrient Management** and the **NRCS 590 Nutrient Management Standard**, please visit:

<http://www.datcp.state.wi.us/arm/agriculture/land-water/conservation/nutrient-mngmt/planning.jsp>

For more information about the **Manure Management Advisory System**, please visit:

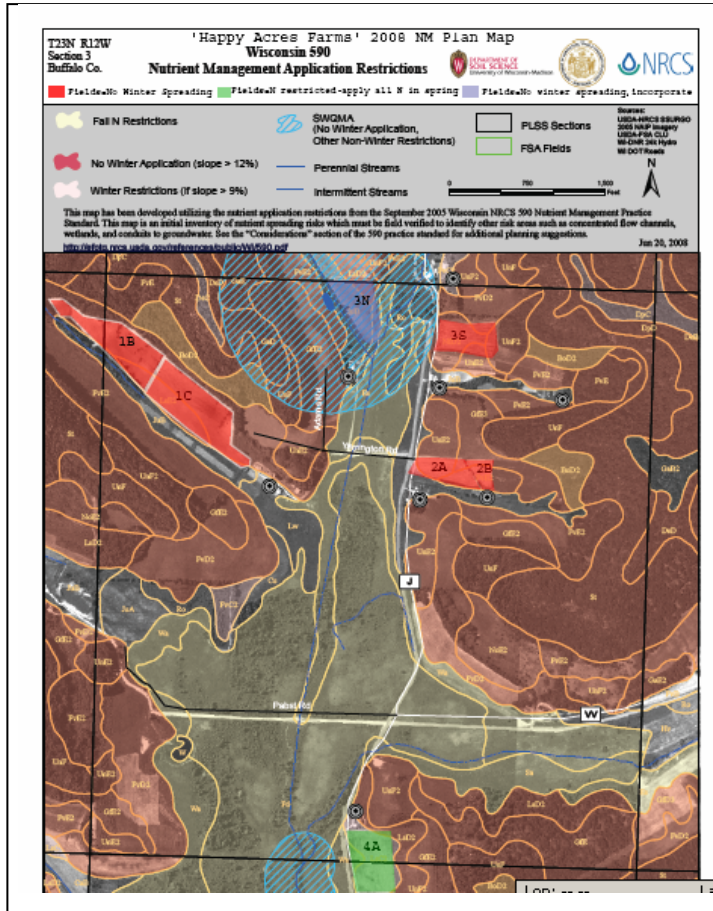
<http://www.datcp.state.wi.us/arm/agriculture/land-water/conservation/manure-mngmt/index.jsp>

What are GeoPDFs®?

GeoPDFs® are a proprietary extension to the Adobe® PDF file format. The extension transforms PDFs from a static phase into a dynamic tool that all users can exploit. Users can open the PDFs with Adobe® Reader® and can add graphics and text to the maps after conducting a free, fast download of the GeoPDF® toolbar extension.

Key Features include the ability to:

- Measure length and area,
- Create notes, polygons, and other mark-ups to distinguish user specific information such as spreading rates, locally identified features, etc.,
- Turn feature layers on and off and print maps with one or more selected layers, and
- Export user mark-ups to a shape file for incorporation back into a geospatial data repository.



This example GeoPDF was edited to identify this fictional farm's specific fields and how they are affected by the 590 Nutrient Management Spreading Restrictions.

The following features were drawn onto the map using the GeoMarkup tools available through the GeoPDF Toolbar:

- Farm Name using the "typewriter" function
- Field Names using the "typewriter" function
- Polygons that show field boundaries and are filled with various colors to designate planned spreading strategies for those fields
- Legend for additional features added above original map legend using polygons and typewriter function

For more information about any aspect of this project, please contact:

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