Drainage Water Management (Controlled Drainage):

Retrofitting an Existing Subsurface Drainage System – Planning, Design and Installation

THE OHIO STATE UNIVERSITY

NRCS

Need for DWM Planning Training

- NRCS National Nutrient Management Strategy – where "feasible"
- Reduce risk of surface water impacts from cropland-applied manure entering tile drains through macropores (cracks, wormholes, roots)

What does “feasible” mean?

Nutrient Management Strategy:

Determination of Mandatory Core Practices

- ***Drainage Water Management***

NRCS-Michigan - 2012

United States Department of Agriculture

NRCS Natural Resources Conservation Service

Michigan – 2012

Nutrient Management Strategy:
Determination of Mandatory Core Practices
- ***Drainage Water Management***
- ***Irrigation Water Management***

LANDOWNER: _____ → COUNTY: _____ → DATE: _____

FARM: _____ → FIELD NUMBER / IDENTIFIER: _____

Drainage Water Management

Drainage Water Management (554) is a mandatory core practice for implementation of Nutrient Management (590) **only when all** of the following conditions apply to the subject field noted above (check all that apply):

☐ *There is an existing patterned/grid (not random) drainage system with laterals (≤ 66-foot spacing) connected to submains or mains*

☐ *Existing drainage system provides drainage for at least 75 percent of the cropped area of the field*

☐ *Existing mains or outlets to be controlled are at least 6-inch diameter*

☐ *Average field slope is 0.5 percent or less for at least 10 acres of the field in the area of the mains*

☐ *A water table may be maintained without having an adverse impact on adjoining properties*

Do all of the conditions listed apply for this field? … Yes … No (circle one)

- If you circled "No," Drainage Water Management (554) is NOT a mandatory core practice to implement Nutrient Management (590) on this field.
- If you circled "Yes," Drainage Water Management (554) is a mandatory core practice to implement Nutrient Management (590) on this field. A Drainage Water Management Plan identifying the target water levels and the number and locations of Structure for Water Control (587) that must be installed in order to facilitate Drainage Water Management concurrently with implementation of Nutrient Management (590).

Potential Workload / Market for Planners

- Acres of Cropland Suitable for Drainage Water Management by County
- EQIP Nutrient Management Acres Contracted 2008-2011 by County

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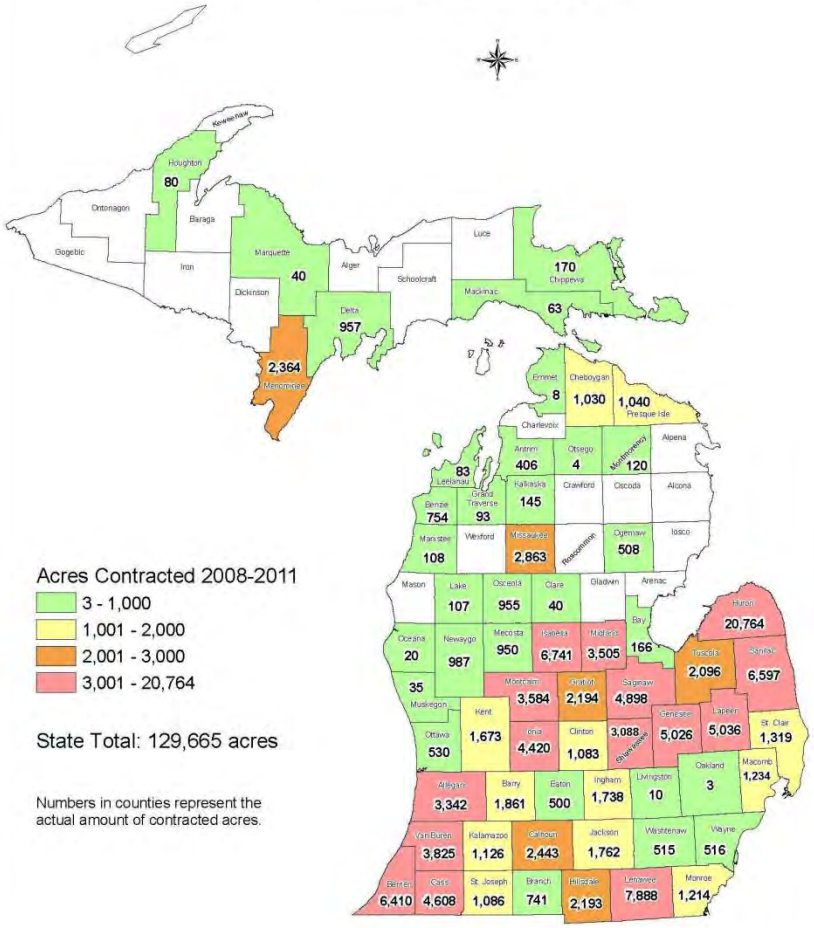
EQIP Nutrient Management
Acres Contracted 2008-2011



Acres Contracted 2008-2011
- 3 - 1,000
- 1,001 - 2,000
- 2,001 - 3,000
- 3,001 - 20,764

State Total: 129,665 acres

Numbers in counties represent the actual amount of contracted acres.

01/03/2012
Map produced at the Michigan State Office
/EQIP/FY12/nutrient_management/nutr_mgmt_acres_2008-2011.mxd

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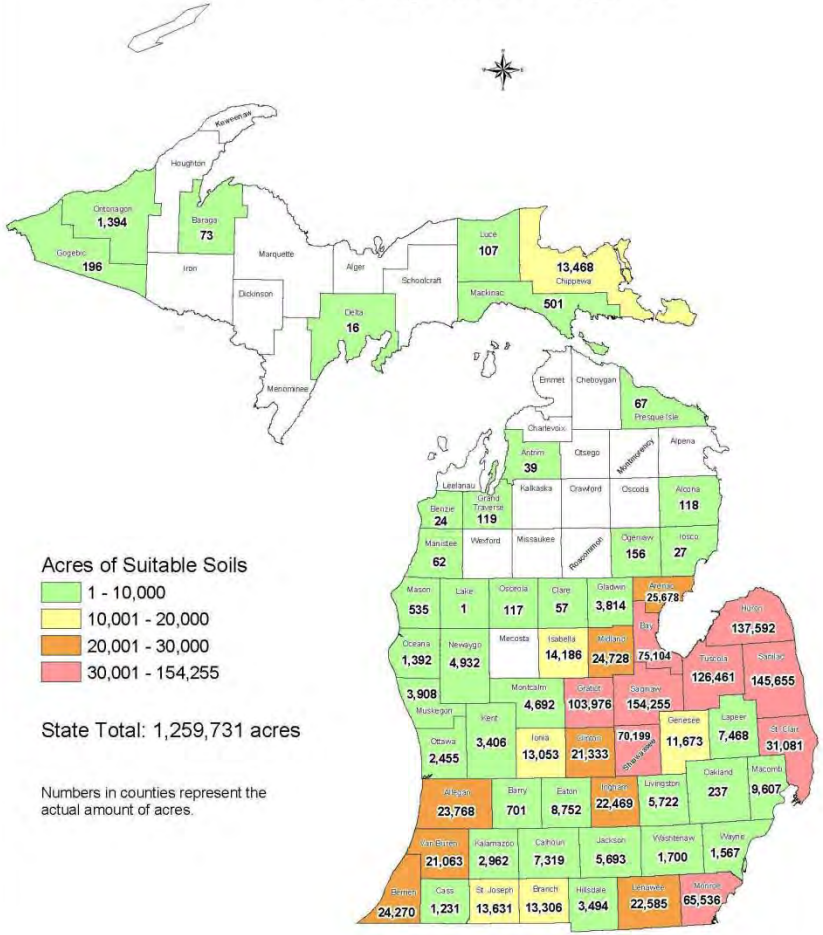
Suitable Soils for
Drainage Water Management



Acres of Suitable Soils
- 1 - 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001 - 154,255

State Total: 1,259,731 acres

Numbers in counties represent the actual amount of acres.

01/05/2012
Map produced at the Michigan State Office
/misc_projects/FY12/davis/dwm/dwm_suitability.mxd

EQIP Payment Schedule FY2012

- **DWM Conservation Activity Plan (CAP) [130] – Amount paid to producer**
  - ✓ **With a map of the tile system readily available from the producer = $1,415.00 per field**
  - ✓ **Without a map of the tile system readily available from the producer = $1,626.00 per field**

EQIP Payment Schedule FY2012

- **Structure for Water Control [587] – Amount paid to producer**
  - ✓ **Water level control structure 10 inches or smaller = $1,267.00**
  - ✓ **Water level control structure 12 inches or larger = $1,463.00**

EQIP Payment Schedule FY2012

- **Drainage Water Management [554] – Amount paid to producer**
  - ✓ **Annual payment for up to 3 years = $316.00 per crop field with DWM structures**

DWM Implications for Wetland Conservation Compliance

- Anytime a USDA participant plans to remove fence rows, convert woodlots to cropland,…. install new drainage, improve or modify existing drainage; then the participant is to notify Farm Service Agency (FSA) and update the Form AD-1026. (see questions 10 & 11)
- FSA will notify NRCS and NRCS will provide HEL or WC determinations according to the law.

Expected Outcomes

- Enhanced DWM technical skills
- Cadre of NRCS-certified TSPs is available for Michigan farmers to hire to develop DWM Plans
- Ensure that Michigan farmers who want to implement Nutrient Management using Farm Bill Program payments do not become ineligible because they lack DWM on their fields where is it is “feasible”
- Achieve water quality benefits from implementing DWM in Michigan

DWM Training Webpage

- Materials for this class will be posted on the Drainage Water Management webpage of the NRCS-Michigan Engineering website
  - ✓ http://www.mi.nrcs.usda.gov/technical/engineering/Drainage_Water_Management.html

Questions ?

Let's have SOME *fun today.*