On-farm Conservation Practices & Environmental Risk Reduction

Lauren Silver
MAEAP Technician
Grand Traverse Conservation District
Agenda

● What is MAEAP?
● Infrastructural Risk Reduction
● Managerial Risk Reduction
● Landscape Conservation Practices
● MAEAP Accomplishments
MAEAP: Michigan Agriculture Environmental Assurance Program
MAEAP’s Mission

To develop and implement a proactive environmental assurance program that targets all size Michigan farms and all commodities, ensuring that farmers are engaging in cost effective pollution prevention practices and working to comply with state and federal environmental rules and regulations.
Operational Components

- Fuel, pesticide, fertilizer, manure, compost storage, handling, and application
- Nutrient management planning
- Livestock lot/pasture management
- Erosion and runoff issues
- Irrigation, fertigation, chemigation
- Contaminant setbacks, in-field conservation practices, buffer strips, vegetative filters
- Emergency planning
- Agrichemical Container Recycling, Pesticide Clean Sweep
Farming and Water Quality

- Nonpoint Source Pollution
- Accidental Discharge
- Primary Pollutants
  - Sediments
  - Nutrients
  - Organic Matter
  - Fuels
  - Pesticides
  - Salts
  - Heavy Metals
  - Pathogens

Figure 3.5. Pollutant Delivery Triangle
Waste Storage Facilities
Agrichemical Handling Facility
Fuel Storage

Before

After

Before

After
Storage and Handling

- Storage
  - Isolation from water sources
  - Impermeable floor surfaces/secondary containment
  - Spill Kits
  - Securable, Signage
  - Extremely Hazardous Substances, Emergency Plan
  - Container condition, disposal
- Handling
  - Mixing/loading, monitoring, measuring devices
  - Backflow prevention
  - Excess spray mixture/building wastewater
Emergency Planning/Spill Response

Filing Instructions
Spill Kits
Reporting
Farm emergency contact info
Agency emergency numbers
Farmstead and neighborhood maps
Agrichemical information
Farm response resources
Emergency action plans for manure, fertilizer, and pesticide spills
Spill or release report
Security and safety Info

By law, MAEAP verified farms don’t suffer civil fines or penalties for accidental discharge if reported and addressed, just resource clean up.
Drift Management

- Procedures used when applying pesticides
- Procedures used when off-target drift is anticipated
- Minimize off-target drift
- Spray characteristics
- Equipment & calibration
- Weather, wind, topography
- Sensitive Areas
Waste Management

Container Recycling

Clean Sweep (Pesticides)

Paints, Solvents, Cleaners

Used Oils
Conservation Practices
Grassed Waterways

Filter Strips (Buffer Strips)

https://lib.dr.iastate.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&amparticle=1580&ampcontext=abe_eng_pubs
Residue/Tillage Mgmt – Reduced Till and No Till
Critical Area Planting
Cover Cropping
MAEAP Accomplishments

- 5,381 verifications statewide to date
- 282 verifications in Grand Traverse, Antrim, Benzie, and Leelanau Counties
- 2013-2018:
  - 1.4 million+ acres with NMP
  - 300,000+ acres cover crops
  - 1 million+ acres reduced till
  - 1.2 million acres+ IPM
For Year 2018:

<table>
<thead>
<tr>
<th>Practice Implementation</th>
<th>FY18 Verifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acres of Conservation Tillage</td>
<td>135,303</td>
</tr>
<tr>
<td>Acres of Cover Crops</td>
<td>37,672</td>
</tr>
<tr>
<td>Acres of NMP/CNMP</td>
<td>216,209</td>
</tr>
<tr>
<td>Linear Feet Filter Strip</td>
<td>894,639</td>
</tr>
<tr>
<td>Total Lbs/Year Phosphorus Reduction</td>
<td>547,049</td>
</tr>
<tr>
<td>Total Tons/Year Sediment Reduction</td>
<td>318,337</td>
</tr>
<tr>
<td>Total Lbs/Year Nitrogen Reduction</td>
<td>1,264,363</td>
</tr>
</tbody>
</table>
Michigan farmers are proud to be recognized for their stewardship!
MAEAP Contacts

Lauren Silver
MAEAP Technician- Antrim, Grand Traverse
lsilver@gtcd.org
231-941-0960 ext. 22

Parker Ameel
MAEAP Technician- Benzie, Leelanau
pameel@gtcd.org
231-941-0960 ext. 23

Dan Busby
MDARD MAEAP Verifier
busbyd@Michigan.gov
231-373-4298