

State Specific Training Module for Michigan

Purpose of this Module

This module will provide some general information that TSPs need to conduct conservation planning in our state. This information is general in nature so the TSP will need to follow up with additional reading or training to make sure they have the knowledge, skill, licenses and certifications to conduct conservation planning in this state.

Review of State Laws

State laws that impact planning considerations in Michigan:

- ❑ Michigan Right To Farm, Public Act 93 of 1981
 - http://www.michigan.gov/mdard/0,4610,7-125-1599_1605---,00.html
- ❑ Michigan Agricultural Environmental Assurance Program, Public Acts 1 and 2, 2011
 - <http://www.maeap.org/>
- ❑ Michigan Safe Drinking Water, Public Act 399 of 1976
 - [http://www.nrcs.usda.gov/wps/portal/nrcs/main/mi/technical/ecoscience/manure/FAQ – Separation of Distances Between Water Wells & Sources of Contamination document.](http://www.nrcs.usda.gov/wps/portal/nrcs/main/mi/technical/ecoscience/manure/FAQ%20-%20Separation%20of%20Distances%20Between%20Water%20Wells%20&%20Sources%20of%20Contamination%20document)

Review of State Laws

- ❑ Michigan Right To Farm, Public Act 93 of 1981
 - Established to protect farmers from nuisance complaints, RTF became the umbrella for defining generally accepted agricultural and management practices (GAAMPs) in conservation planning.
 - GAAMPs are scientifically based and utilize current technology promoting sound environmental stewardship on Michigan farms. Certified conservation plans and all CAPs must comply with the Michigan Right To Farm.

Review of State Laws

□ Michigan Right To Farm, Public Act 93 of 1981

- Please become familiar with the following significant GAAMPs prior to providing planning services.
 - Nutrient Utilization GAAMP,
 - Pesticide Utilization and Pest Control GAAMP,
 - Manure Management & Utilization GAAMP,
 - Site Selection & Odor Control for New & Expanding Livestock Facilities GAAMP

http://www.michigan.gov/mdard/0,4610,7-125-1599_1605---,00.html

Review of State Laws

- ❑ Michigan Agricultural Environmental Assurance Program, Public Acts 1 and 2, 2011
 - A voluntary program through which farms are verified to meet set standards of environmental assurance.
 - Role in conservation planning:
 - Established a set of assessment guides the planner can use to evaluate the impact of management practices on groundwater and surface water resources including minimum actions to meet the Michigan Right to Farm GAAMPs. Use of the MAEAP assessment guides are not required for certified conservation plans, however, other assessment tools may be needed.

Review of State Laws

- ❑ Michigan Agricultural Environmental Assurance Program, Public Acts 1 and 2, 2011 continued:
 - Prior to being codified, the MAEAP was organized as a partnership with NRCS, MSU Extension, MDARD and MDEQ, and established minimum components required in a CNMP for livestock farms in Michigan.
 - The MAEAP CNMP Checklist was previously used to review all CNMPs for certification of all TSPs, contractors, partner employees, and NRCS employees. It is still a comprehensive checklist and can be used as a guideline for completing CNMP's, however the official checklist is now located here: <https://efotg.sc.egov.usda.gov/#/state/MI/documents/section=3&folder=64163>

Review of State Laws

- ❑ Michigan Safe Drinking Water Act, Public Act 399 of 1976
 - Requires all planned waste, fertilizer, or pesticide storages, or related treatment practices meet specific well isolation distances or are installed with environmental protection measures.
 - Review the FAQ – Separation of Distances Between Water Wells & Sources of Contamination document.
 - The planner must complete a Well Isolation Distance Worksheet for all plans that include waste, fertilizer, or pesticide storages, or related treatment practices to ensure the planned practices are outside of the acceptable isolation distance.
 - [WELL ISOLATION DISTANCE WORKSHEET for MAJOR and POTENTIAL SOURCES of CONTAMINATION](#)

Review of State Laws

- ❑ Planning of engineering practices may require the TSP to have a Professional Engineering (PE) License in the State of Michigan. However, it is also expected the TSP will have the technical knowledge, skills and ability to complete the inventory & evaluation and any necessary site feasibility for all planned engineering practices. Conservation Practice Standards (FOTG-Section IV) contain the minimum site feasibility criteria.
- ❑ Please review [Public Act 299 of 1980, Article 20](#) to determine if you require a PE for services you will provide in Michigan.

Review of Michigan FOTG

Providing Services in Multiple States or New TSPs

- ❑ After taking the “Introduction to the Field Office Technical Guide” and "TSP Orientation and Conservation Planning" online training courses, it is requested the TSP take some time to review the Conservation Practice Standards (CPS) and Implementation Requirements (IR) in the different states they work in to recognize if there are major differences.
- ❑ It is requested new TSPs review the CPS and Implementation Requirements (IR) they are unfamiliar with prior to providing planning services.
 - Contact the State’s TSP Coordinator for a discipline specialist name & contact information if further clarification is needed for specific practices.

Review of Michigan FOTG

- ❑ All Conservation Implementation Requirements (IR's) and technical assessment tools are located in the Conservation Practice Standard (CPS) folder.
- ❑ The TSP should check the MI Conservation Practice Standard folder to ensure they have the appropriate state technical assessment tool that will be used to support their technical conclusions and the job sheet to document specifications that will be provided to the landowner for implementing the practice.
- ❑ Special Note – The MI Phosphorus Index (PI) is located with the 590-Nutrient Management CPS along with other assessment tools under the subfolder Nutrient Mgt. Tools and References.
591-Using the PI from MMP is not an equivalent.

Review of Michigan FOTG

Important Notice to Planners

The “Resource Concern List and Planning Criteria” document is located in the Michigan FOTG-Section III-Resource Concerns and Planning Criteria. Please review this document for state specific:

- resource concern descriptions,
- Michigan screening evaluations,
- level natural resource protection expected to fully address the associated risks to the natural resource from the existing and proposed agricultural activities, and
- the documentation needed to support a conclusion that the conservation plan includes a resource management system that will address, protect or enhance the natural resources. Screening Criteria and documentation may vary by state so it is important to review the state specific criteria when planning in multiple states.

Review of Major Land Uses

The common land uses in Michigan are:

- Farmstead (formally Headquarters)
- Cropland (including hay land)
- Pastureland
- Forestland
- Associated Ag Land (including but not limited to areas of wetlands, non-cropped areas and other wildlife habitat areas associated with other agricultural land units)

The TSP planner will be expected to properly identify and use NRCS designated Land Uses on all maps and in the schedule of implementation. A complete list and definitions can be found in the [National Planning Procedure Handbook](#) available online.

Special Considerations in Conservation Planning in Michigan

- ❑ Michigan is divided into 3 main climatic and soil regions
 - Southern Lower Peninsula
 - Northern Lower Peninsula
 - Upper Peninsula
- ❑ Climatic differences may impact field conditions for installing structural practices.
 - If a structural practice cannot be installed due to winter conditions provisions must be included in the planned practice specification that will provide temporary cover to prevent erosion on disturbed areas.

Special Considerations in Conservation Planning in Michigan

- ❑ Planting dates in the different regions of the state may vary due to climatic differences; wildlife breeding & nesting dates follow the same regional areas and therefore scheduling of vegetative management activities will vary from region to region; grazing periods essentially follow the same seasonal patterns within the summer, however start and end dates will vary greatly from the southern lower peninsula to the upper peninsula. The primary grazers are beef cattle. The typical growing season is April through October.
 - Grassland Activity Dates can be found in Section IV-Ecological Sciences Tools.

Special Considerations in Conservation Planning in Michigan

- ❑ One relevant physical feature about Michigan is that it is comprised of two peninsulas and natural or agricultural drainage systems are extensive throughout the state.
 - Some natural water courses have been established as legal county drains. Any conservation planning within the county drain right of way needs to be in consultation with the local County Drain Commissioner.
 - Landowners should initiate this consultation
 - Agricultural drainage systems may include both surface and subsurface drains; private surface drains & subsurface tile systems are also common and typically outlet into a county drainage system.
 - It should be understood, these drainage systems eventually drain into one of the Great Lakes.

Special Considerations in Conservation Planning in Michigan

- ❑ There are major watershed efforts underway targeting phosphorus reduction on both cash crop and livestock farms throughout Michigan including but not limited to the Saginaw Bay, Lake Macatawa, the Southeast Lake Michigan Basin and the Western Lake Erie Basin. Projects are too numerous to list here.
 - TSPs should discuss if any water quality projects are ongoing in the watershed with their client early in the planning process.
 - For example, Conservation Plans developed for landowners in the Western Lake Erie Basin need to address phosphorus reduction to meet local watershed planning objectives. Phosphorus strategies should show a reduction in rates, not the max allowed by RTF.

Special Considerations in Conservation Planning in Michigan

- Transition to organic production is on the rise for fruit and vegetable crops but is also increasing on livestock farms.
 - TSPs that can provide technical assistance in organic methods to implement common NRCS Conservation Practices are in high demand.
 - Alternative organic methods of producing specialty crops, common cash crops of corn and soybeans, as well as forage establishment are the main sought after specifications*. In example, practices such as:
 - 590-Nutrient Management
 - 595-Intergrated Pest Management
 - 512-Forage and Biomass Planting

*Specifications are the 'how to' and 'how much' details needed to implement the practice; not just what practice.

Review of Important Resource Concerns

Michigan includes large regions of dairy, forest, forage production, fruit and vegetable, grains and other truck crops. The following are a list of the most common resource concerns.

- ❑ **Soil** Erosion from Wind & Water are major resource concerns throughout the state.
 - Concentrated Flow Erosion is a major problem because it is one of the greatest causes behind nutrient laden sediment reaching the water systems. Solve gully, sheet & wind erosion and many other overlapping resource concerns can be addressed.
 - Consider the Soil First.

Review of Important Resource Concerns

- ❑ **Soil** Quality Degradation – Organic Matter Depletion is a major resource concern being addressed by a state wide soil health campaign.
 - OM is being addressed in many plans on farms with mineral soils with a history of conventional tillage.
 - There are many contributing factors to poor soil health; optimum OM level is one of the first key indicators there is a problem.
 - Soil tests provide documentation of OM levels to support the need to improve soil organic matter.
 - Consider the Soil First and the rest will follow.

Review of Important Resource Concerns

- ❑ **Water Quality** – Excessive Nutrients in Surface and Groundwater; as mentioned earlier, is a major concern all plans with cropland, farmsteads & pasture land will need to address due to the extensive water resources throughout the state.
- ❑ **Water Quality** – Excessive Sediment in Surface Waters; the resource concern is not just with the nutrients the sediment carries but the sediment loading causes limited use for the water course as a drainage system – reducing the capacity and causing higher costs of drainage clean-outs. Excessive sediment in surface waters may also negatively impact aquatic habitat systems by changing the physical make up of the stream bed, water temperature or vegetation.

Review of Important Resource Concerns

- ❑ Insufficient Water - Irrigation is common in many areas of the state for cash crops and fruit crops. The major concern is managing the application efficiency to meet the crop needs.
 - Requests for DIA-163-Irrigation Water Management Design is on the rise and there is a need for TSPs in this area.
 - Note: Irrigation is used for both meeting moisture needs and as a method of liquid manure application.

Review of Important Resource Concerns

- ❑ **Air Quality Impacts - Objectionable** Odors from livestock farms is a common Air Quality concern addressed in CNMPs.
 - Most livestock farms concentrate as dairy, poultry, hog or beef operations, however, sheep, goats and horses are not unusual.
 - Complaints are resolved quickly using the RTF-GAAMPs
- ❑ **Air Quality Impacts – Emissions of Particulate Matter from agriculture chemical use, especially chemical drift or application rates & timing should be addressed on all cropland plans.**
 - Michigan is not a designated Air Quality State; all areas are considered in Attainment Status from agricultural sources, however it should be noted use of fertilizers and pesticides is common and therefore proper use needs to be addressed.

Review of Important Resource Concerns

Pest Management and Plant Productivity is a common theme in conservation plans for Michigan farms.

Plants - Degraded Plant Condition – Undesirable Plant Productivity and Health

- Many planners identify this as a resource concern on cropland due to a landowner objective to maximize yield goals however, plant productivity is generally not a problem in the southern lower peninsula and Saginaw Bay area where most prime farmland exists.
- Undesirable plant productivity is very common on Pasture land in the northern lower peninsula on less productive soils where soil testing or good nutrient management is not utilized.
- Plant productivity is the first question from landowners transitioning to organic; “can I maintain my yields without using pesticides?”

Review of Important Resource Concerns

Plants - continued

- ❑ **Plants** - Degraded Plant Condition – Undesirable Plant Productivity and Health;
 - This includes addressing undesirable plant conditions for pollinators and beneficial insects related to productivity and health of the plant stand– it is addressed by maintaining a healthy stand of plants designated to address the needs of the pollinators and beneficial insects. However...
- ❑ **Plants** – Degraded Plant Condition – Inadequate Structure and Composition should also be addressed in plans addressing a pollinator habitat or a beneficial insect objective.
 - Plantings for this are typically being established on cropland.

Review of Important Resource Concerns

Plants - continued

- ❑ **Plants** - Degraded Plant Condition - Excessive Pest Pressure is a resource concern on cropland, pastureland, forest lands and associated ag land.
 - It is addressed on an annual basis on production agricultural farms in Michigan. It would be unusual not to address this resource concern in all plans that include cropland and pasture land.
 - Invasive plants species control is a concern among landowners trying to establish native vegetation on multiple land uses.
 - Especially an issue on cropland being converted out of annual production to grassland covers or wetland restoration practices.

Review of Important Resource Concerns

- ❑ **Animal** – Inadequate Habitat for Fish and Wildlife – Habitat Degradation; or the lack of quality habitat on the existing land units is a concern throughout the state, it is not any less important from one area to the next.
 - Primarily a concern on cropland and the associated ag lands with farms converting cropland out of annual production to buffers, field borders, larger grassland covers or wetland restoration practices and actively managing associated ag lands to increase habitat for food, nesting cover and winter shelter, especially where Threaten and Endanger Species are present.
 - Many production agriculture farm families in Michigan are avid hunters and manage associated ag land and woodlands for annual hunting of deer, turkey and pheasant.

Review of Important Resource Concerns

Energy Conservation has started to become more of a concern Michigan NRCS clients are requesting assistance with. Inefficient energy use in field operations has been addressed for over 30 years in Michigan as a secondary benefit of implementing no-till systems to control erosion on highly erodible land. However, many farms are now also interested in evaluating energy use and potential reductions on the Farmstead – headquarters.

- ❑ The two defined energy resource concerns are evaluated through an Ag Energy Assessment to establish needed improvements.
 - Common issues are with grain drying, milk cooling, irrigation pumps and operation equipment upgrades to more efficient combustion engines.
 - MSU has a prominent On-Farm Energy Auditor Certification Program where many local auditors receive training and are providing valuable insight to landowners in this area of concern.

Special Environmental Concerns

It is highly recommended the TSP planner become familiar with the following Special Environmental Concerns as they relate to critical physical features and natural resources in Michigan.

Clean Water Act

- Due to the presence of water courses throughout the state, certified conservation planners will need to consider impacts to surface water from all soil disturbing practices on all land uses.
- Practices proposed in and adjacent to surface water should include conservation measures to protect the water from the inadvertent discharge of sediment or other pollutants, and/or the placement of fill into surface waters.

Special Environmental Concerns

- ❑ Cultural Resources and Historic Properties (CR/HP)
 - Please be aware landowners who wish to install practices with the potential to disturb cultural resources or historic properties with technical or financial assistance from NRCS need to allow for enough time for the NRCS-Michigan State Office to complete the necessary CR/HP review.
 - CR/HP reviews could take anywhere from 4 weeks to 6 months. Conservation Plans should include reasonable planned installation dates.
- ❑ Threatened and Endangered (T&E) Species
 - Consult the FOTG-II-T&E County Lists for information on potential T&E Species and their essential habitat.

Special Environmental Concerns

- ❑ Threatened and Endangered (T&E) Species continued.
 - Land use changes or changes to habitat conditions cause the most threats to T&E species; if a land use change is planned, or planned activities will result in a significant change to essential habitat present in the planning unit, the TSP may consult the NRCS State Biologist to discuss potential impacts on T&E species.
 - T&E Plant species are of special concern on Forest land in Michigan; planned timber harvests and installation of forest trails and landings may negatively impact T&E Plant species. Any planned harvest or cutting of trees MUST have a thorough T&E review completed through Fish and Wildlife Services IPAC system.

Special Environmental Concerns

- ❑ Threatened and Endangered (T&E) Species continued.
 - Prior to planning any practices that may damage or destroy T&E Plant species, a Plant Inventory is recommended when there is the potential for T&E Species to be in or adjacent to the planning units. (as indicated on the FOTG-II-T&E Lists)
 - Landowners may request NRCS conduct a Michigan Natural Features Inventory (MNFI) database review for additional information on the potential presence of T&E species or their essential habitats. This is highly recommended prior to finalizing conservation plans.

Special Environmental Concerns

☐ Wetland Provisions of the Food Security Act.

- It should be expected wetlands will be present in or adjacent to many agriculture fields in Michigan.
- It is imperative all conservation plans do not propose practices that alter wetlands without first having the landowner consult NRCS for a Certified Wetland Determination.
- This overlaps with the Water Quality resource concerns as part of the inventory and evaluation planning step. An inventory of physical features impacted by the proposed land use activities should include the identification of potential wetland in and adjacent to the planning units.

Expected Level of Performance for Certification

Plans submitted to Michigan for a conservation planner certification review should be a Resource Management System level plan covering a minimum of two land uses.

- A RMS level plan addresses all resource concerns on all the land units for the planned land uses under control of the farm.
- Plan documents should include: an overview of the landowners operation and conservation objectives; all plan maps; soil maps and map unit descriptions; a description of the site specific resource concerns; all assessment tools used to determine the benchmark conditions and make any technical conclusions; a schedule of implementation; and the planned practice specifications describing how the landowner will implement the practice, it is requested planners use NRCS-Michigan Implementation Requirements to provide this information so no component is left out.
- Engineering designs are not necessary but adequate site feasibility of proposed practices such as documented soil borings should be included.

Expected Level of Performance for Certification

The level of performance expected for all conservation planners is based on an assessment of knowledge, skills and ability, KSAs.

- 1) Awareness (*awareness of the planning process*)
- 2) Understanding (*understanding of resource concerns & applicable assessment tools*)
- 3) Perform with Supervision (*performing responsibilities under the supervision of another professional or certified planner*)
- 4) Perform Independently (*preparing plans without deficiencies or need for technical assistance from others except in unique situations or on complex engineering components*)
- 5) Proficient & Can Train Others

A planner must be to Perform Independently to achieve Certified Conservation Planner status in Michigan.

Expected Level of Performance for Certification

- ❑ So how does a private provider gain the knowledge, skills and abilities to perform at the independent level?
 - A TSP is not an entry level position.
 - It is recommended a person, interested in becoming a TSP, with little or no experience seek out a position where they will gain the needed experience as they would for any other type of technical job they pursue after completing a formal education.
 - An individual may need to spend as much as 4 years working in the field for an agricultural business, private provider, local organization, state or federal agency to gain the necessary experience and skills.

Expected Level of Performance for Certification

- ❑ Gaining experience - Continued
 - NRCS provides technical assistance & training on unique software or assessment tools, however, the TSP should also plan to gain the on the job experience in private industry.
 - It is reasonable for new TSPs to go through 3 plan reviews under supervision on the job prior to achieving the TSP certification.
 - Consultants with experience in providing agricultural related services may take up to a year to become proficient at using the available software, assessment tools, job sheets, and plan documentation if they have not used them in the past. Working with NRCS-Michigan on two plan reviews is not uncommon prior to certification as a TSP.

Expected TSP Workflow

- ❑ The State Resource Conservationist (SRC) delegated representative, Heather Varboncoeur, Resource Conservationist, East Lansing - Michigan will be responsible for reviewing TSP conservation plans for the National TSP Conservation Planner Certification in Michigan.
 - The SRC will assign a discipline specialist or a team of specialists, as needed, to complete the plan review and recommend certification or prepare a summary of deficiencies.
 - Summary of deficiencies will include a detailed description of the deficiency, technical guidance to complete or revise the plan and deadline for completing any additional work.
 - Additional plan reviews will be required if the first plan cannot be approved as submitted.

Expected TSP Workflow

- ❑ After TSP Certification, subsequent conservation plans written for NRCS clients will be reviewed by a Certified Conservation Planner at the local USDA Service Center.
- ❑ **NRCS in Michigan provides no financial assistance to landowners for conservation planning outside of EQIP contracted Conservation Planning Activities (CPA/DIA/CEMA).**
- ❑ Plan reviews for TSP certification renewals will be completed by the planning specialist or discipline specialist at the State Office.

Additional References or Training Recommended

- NRCS Website at www.nrcs.usda.gov
- NRCS-Michigan Website:
<http://www.nrcs.usda.gov/wps/portal/nrcs/site/mi/home/>
- NRCS Technical Service Providers Website: <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/technical/tsp/>
- Michigan Field Office Technical Guide (FOTG)
http://efotg.sc.egov.usda.gov/efotg_locator.aspx
- NRCS Technical Notes (see FOTG-I)
- Air Quality Resource Concerns (online AgLearn)
- Environmental Compliance in Conservation Planning (online AgLearn)
- Nutrient and Pest Management Considerations in Conservation Planning (online AgLearn)

State TSP Coordinator

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Certificate of Completion

After viewing the State Specific Training module, please print and sign the completion certificate on the following slide.

The certificate is your acknowledgement that based on the information provided in this module, you have the proper knowledge, skills and ability to conduct planning in this state.

Within your NRCS Registry profile, enter the training and upload the signed certificate to verify completion.



STATE SPECIFIC TRAINING MODULE COMPLETION CERTIFICATE

I, _____ hereby verify I have viewed and understand the content of the Michigan State
TSP Name
Specific Training Module and affirm I have the knowledge, skills, and ability to conduct conservation planning
services in this state.

TSP Signature

Date

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To File a Program Complaint

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Persons with Disabilities

Individuals who are deaf, hard of hearing or have speech disabilities and you wish to file either an EEO or program complaint please contact USDA through the Federal Relay Service at (800) 877-8339 or (800) 845-6136 (in Spanish).

Persons with disabilities, who wish to file a program complaint, please see information above on how to contact us by mail or by email. If you require alternative means of communication for program information (e.g., Braille, large print, audiotape, etc.), please contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

Supplemental Nutrition Assistance Program

For any other information dealing with Supplemental Nutrition Assistance Program (SNAP) issues, persons should either contact the USDA SNAP Hotline Number at (800) 221-5689, which is also in Spanish, or call the State Information/Hotline Numbers.

All Other Inquires

For any other information not pertaining to civil rights, please refer to the listing of the USDA Agencies and Offices.