



TRACKING PROGRESS

Data collection and analysis is an integral part of managing a farmland leasing program, as it can strengthen current management decisions, communicate progress towards conservation goals, and inform strategies for the eventual restoration of farmland. Often public agencies have extensive datasets related to habitat and wildlife surveys, however, tracking farmland information requires some planning.

It is helpful to define specific management categories that are important to the organization and identify measurable or verifiable metrics that will evaluate the management category in question. One challenge is prioritizing those categories and deciding on a reasonable number of metrics to use based on availability of data, administrative burden, cost,

and ability to detect meaningful changes. Another challenge is integrating agronomic and ecological metrics to evaluate more holistically if natural resource protection goals are being achieved. Finally, an important consideration in setting up a data management system is deciding who generates, collects, stores, and analyzes the data.

Below, we outline categories of data that are important to consider when developing a data tracking framework. This section also includes an example of a model for data tracking, called the Agriculture Conservation Index. The Index was developed in partnership by McHenry County Conservation District, the Liberty Prairie Foundation, Delta Institute, and Foresight Design. The process and rationale for the Index are spotlighted at the end this section.



FRAMEWORK: DATA TRACKING

USEFUL CATEGORIES TO CONSIDER ARE LISTED BELOW:

Nutrient management

It is useful to distinguish between planning and implementation in this category. Having a plan doesn't guarantee that it will be followed, but having a plan is an important step in considering the application of fertilizers on the land. It might also be easier to verify and manage administratively.

Soil testing

There are several factors that can be used to assess implementation of soil testing and its effect on soil:

- Determining which kind of soil testing to conduct;
- Conducting the soil testing;
- Implementing different management practices in response to soil test results.

Cropping system

- This category can be used to evaluate the diversity of crop rotations and ground cover.
- Best management practices
- If a program requires specific conservation practices to be implemented, this category can evaluate the compliance - for example, buffer strips.

Habitat

For natural resource organizations, this will be one of the most important categories to think about. Depending on the organization's priorities, management activities can include: quantity and quality of in-field habitat; pesticide-use planning; and actual pesticide application.



DATA TRACKING MODEL: AGRICULTURAL CONSERVATION INDEX

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NUTRIENT MANAGEMENT	Fertilizer Application Planning	No plan	Nutrient Management Plan developed and kept updated
	Fertilizer Application	Fall application	Nutrients added immediately before or during the growing season
SOIL TESTING	Soil Testing frequency and farmer interaction	No soil tests	Cornell Soil Health Test Baseline established
	Advanced Soil Testing (Biological)	Cornell Soil Health Test Overall Quality Score 0-20	Cornell Soil Health Test Overall Quality Score 20-40
	Responses to Soil Testing	Soil test results not informing management	Implement at least one practice in response to soil test results
CROPPING SYSTEMS	Residue Cover (June 1st-15th)	Low: <20%	Medium: 20-60%
	Crop Rotations	Continuous (example: corn/corn)	Two crop rotation (example: corn/soybeans)
	Cover Crops - Implementation	No plan	Conservation plan guidelines followed
	Cover Crops - Diversity	No cover crops	Single species
BMPs	Grassed Filter Strip	No filter strip or doesn't meet specifications	Filter strip meets specifications (30 ft -65 ft next to high quality stream)
	In-field Habitat (not relevant)	Vegetation not suitable for wildlife habitat	Field includes filter strip, field border, or grassy waterway
HABITAT	In-field Habitat	No habitat	At least 10% of field acres is permanent habitat, could be around the edges
	Pesticide Use - Planning (any chemical sprayed on fields for bugs or weeds or fungus control)	No records	Keep records of pesticide / herbicide application on each field/ proof of license
	Pesticide Use - Implementation (any chemical sprayed on fields for bugs or weeds or fungus control)	Not following management plan restrictions	Use contact/selective herbicides (meet requirements of the management plan)



3	4		
	4R plan completed updated annually OR Crop consultant deems that no plan is needed	Fertilizer Application Planning	NUTRIENT MANAGEMENT
Variable rate application	No synthetic fertilizer used	Fertilizer Application	
Develop a conservation plan based on soil health test results		Soil Testing frequency and farmer interaction	SOIL TESTING
Cornell Soil Health Test Overall Quality Score 60-80	Cornell Soil Health Test Overall Quality Score 80-100	Advanced Soil Testing (Biological)	
Implement at least three practices in response to soil test results	Implement all management changes in response to soil test recommendations	Responses to Soil Testing	
	High: >60%	Residue Cover (June 1st-15th)	CROPPING SYSTEMS
Three or more crops in rotation (example: corn/soybeans/wheat)	Perennial cropping system	Crop Rotations	
Cover crops on NHEL ground	Grazing cover crops	Cover Crops - Implementation	
Multi species with a legume	Implementing cover crops (any mix) AND planting green	Cover Crops - Diversity	
		Grassed Filter Strip	BMPs
Establish in-field habitat with non-native cover	Establish in-field habitat with native cover	In-field Habitat (not relevant)	HABITAT
Manage hay field for late cutting	Implement permanent cover or pasture	In-field Habitat	
Develop an Integrated Pest Management plan utilizing less persistent/toxic for habitat (pollinators, aquatic life) Implement the IPM plan	Planning for Organic Certification	Pesticide Use - Planning (any chemical sprayed on fields for bugs or weeds or fungus control)	
	Eliminate pesticide use or Organic certification	Pesticide Use - Implementation (any chemical sprayed on fields for bugs or weeds or fungus control)	