Vermont Nutrient Management Planner

ational Water Quality Conference

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USDA Natural Resources Conservation Service

Presentation Overview

- Regulations Related to Livestock Operations in Vermont
- Vermont Water Quality Programs
- Vermont Nutrient Management Planning Software

Addressing National Priorities

EPA
United States Environmental Protection Agency

Producers' Compliance Guide for CAFOs

Revised Clean Water Act Regulations for Concentrated Animal Feeding Operations (CAFOs)

A guide to complying with EPA's 2003 revisions to the National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitations Guidelines and Standards for Concentrated Animal Feeding Operations

Addressing Vermont Priorities

Vermont Agency Of Agriculture, Food & Markets

Vermont Agency of Agriculture, Food & Markets

Medium and Small Farm Operation
Rules for Issuance of General and Individual Permits

Regulations

Large and Medium Farm Operations, as well any operation that has a direct discharge, require a General Animal Waste Permit that includes a Nutrient Management Plan

Medium Farm Operation (MFO)

Medium Farm Operation means an animal feeding operation (AFO) which houses:

- 200 to 699 mature dairy cows, whether milked or dry;
- 300 to 999 cattle or cow/calf pairs;
- 750 to 2,499 swine weighing over 55 pounds;
- 150 to 499 horses;
- 3,000 to 9,999 sheep or lambs;
- 9,000 to 29,999 laying hens or broilers with a liquid manure system;
- 16,500 to 54,999 turkeys; or
- any other animal type and number that the Secretary may deem appropriate

General Permit Scope

Ensure that permitted livestock operations generating animal waste do not have a direct discharge of waste to the waters of the state and operate in accordance with a Nutrient Management Plan. Farms must essentially develop a Comprehensive Nutrient Management Plan (CNMP), which includes:

- ✓ Manure and Wastewater Handling Plan;
- ✓ Land Treatment Plan;
- ✓ NRCS Nutrient Management Plan; and
- ✓ Record Keeping

USDA Environmental Quality Incentive Program 2005 Prioritization

- Local Priority Resource Concerns
- TMDL and Vermont 303(d) Impaired Waters from Agriculture
- Resource Concerns Addressed
- Manure and Wastewater Handling Systems/CNMPs
- Cropland & Hayland Systems
- Pasture &Grazing Systems
- Riparian Area Systems
- Forestry Systems
- Fish & Wildlife Systems
- Invasive Species Control
- Innovative Practices
- Organic Certification

EQIP 2005 Prioritization

Manure and Wastewater Handling System

The livestock operation is classified under the Federal/State CAFO/AFO regulations as potentially being included in the CAFO/AFO permit program, and is not yet meeting the CAFO/AFO requirements

Implementation allows the producer, regardless of the size of the operation, to address a significant contribution of pollutants to waters of the U.S. "Significant Contributor"

Livestock “Significant Contributors”

Livestock operations, regardless of size, where:

A water conveyance flows through the barnyard or other manure source where livestock and animal wastes are concentrated and discharge directly into a perennial water body (less than 200 feet);

A pipe conveys animal wastes or wastewater and discharges directly into a perennial water body; or a channel that conveys waste and/or wastewater and discharges directly into a perennial waterbody that is less than 200 feet from the source;

Wastes or wastewater from a barnyard or other manure source where livestock and animal wastes are concentrated and flow overland through a predominantly non-vegetated area or channel less than 200 feet, and discharges directly into a perennial water body.

2005 EQIP Applcants

al Applicants	**208**
n-Priority Applicants not ranked	13
ority Applicants with an Ag. Waste Structure	**57**
MFOs >200 cows	16
MFOs / Significant Contributor	13
< 200 cows Significant Contributor	26
Local Work Group Priority	2
plicants w/o an Ag. Waste Structure	28
MFOs > 200 cows	2
Others (grazers, vegetables, organic, etc.)	26

Plans Are Written in Cooperation With Producers To:

- Assure proper containment of animal waste and process waste water
- Assess resource concerns which exist on the property
- Budget nutrient sources to optimize crop nutrient needs. Nutrient sources include commercial fertilizers, animal waste, mineralization of soil organic matter, accounting of previous manure applications and crop residues

ermont Integrated Crop Management
Nutrient Management Plan Program

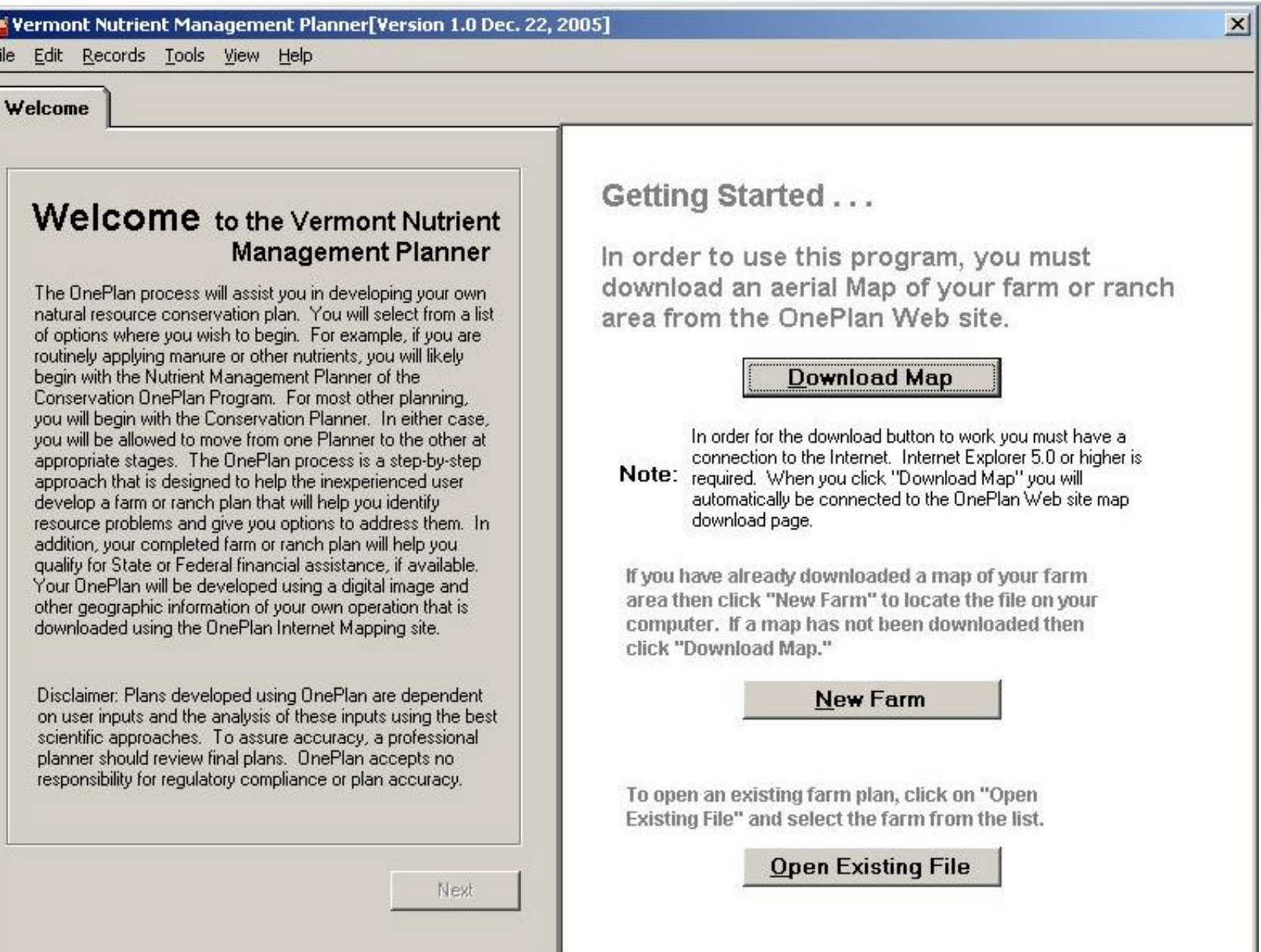
- $6/acre for NMP development
- 100% of soil and waste testing costs
  - $9.00 per soil test
  - $30.00 per manure/waste test
- $5,000 for an additional 3 years of NMP updates and implementation follow-up
  - $2,000 for the 1st and 2nd year
  - $1,000 for the 3rd year

Nutrient Management Planning

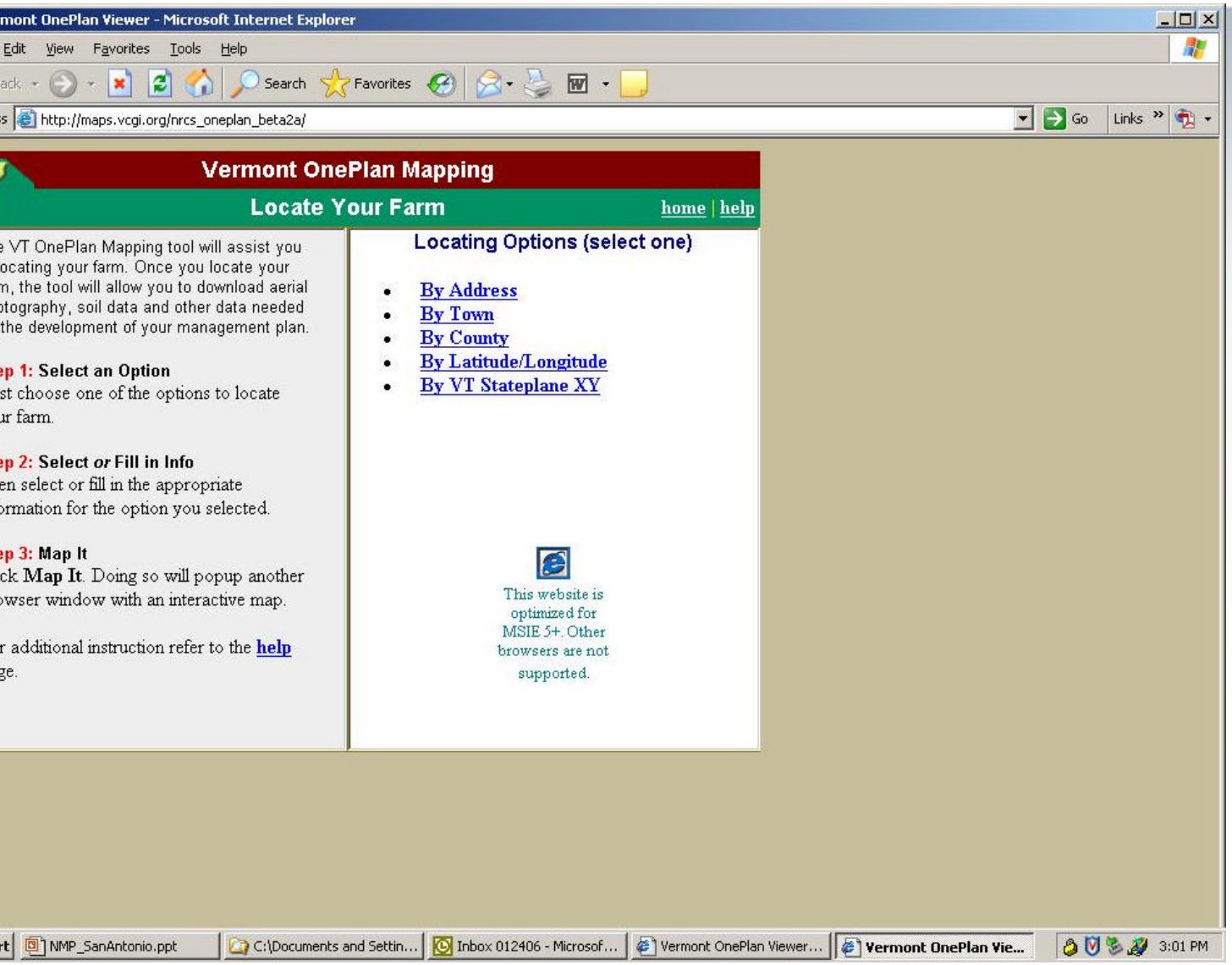
Technical Assistance

- Extension
- NRCS
- Crop Consultants (Traditional Crop Production)
- Technical Service Providers
- Farmer Driven with planner technical assistance
- Farmer Self Directed

Vermont Nutrient Management Planner

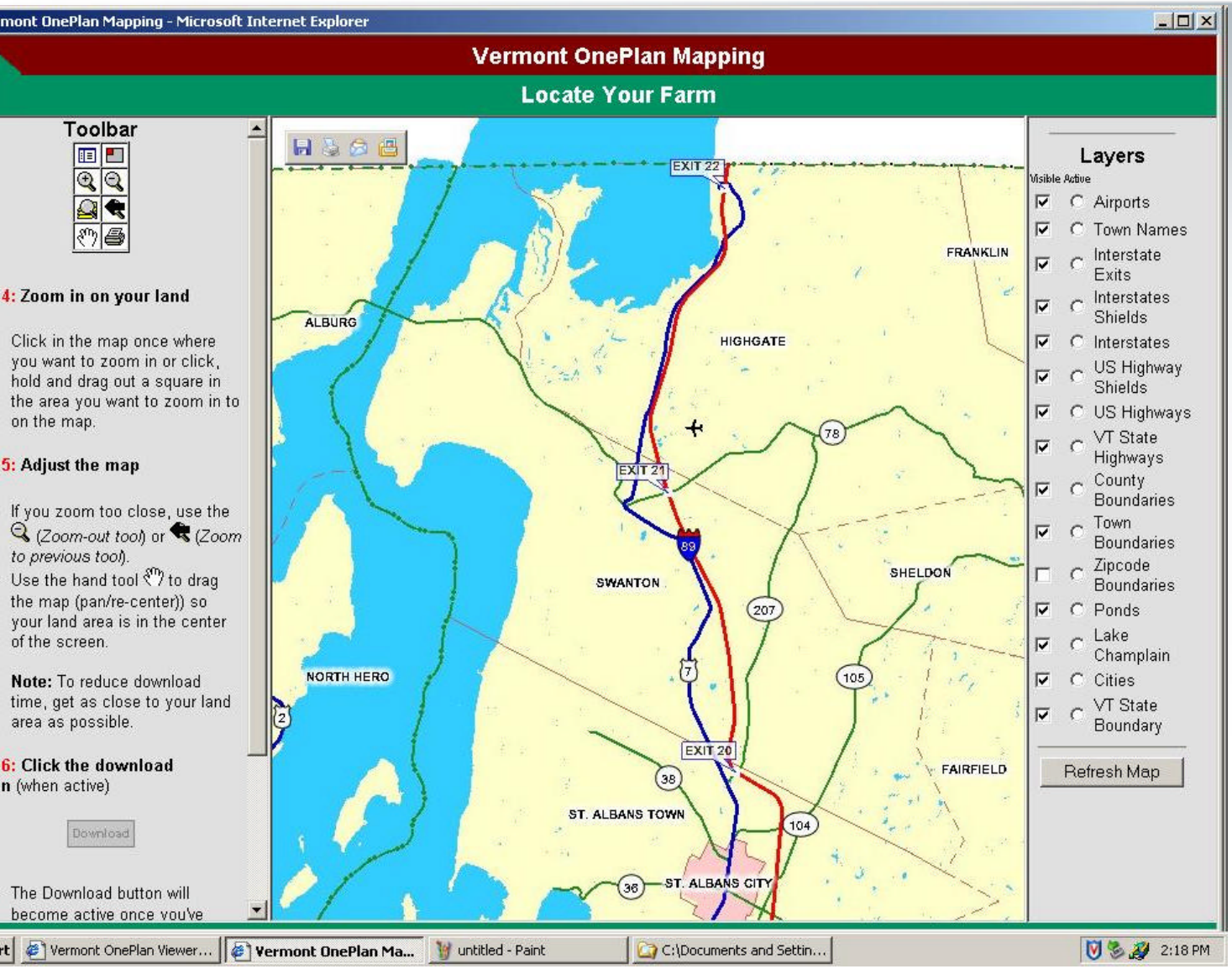


nternet Mapping



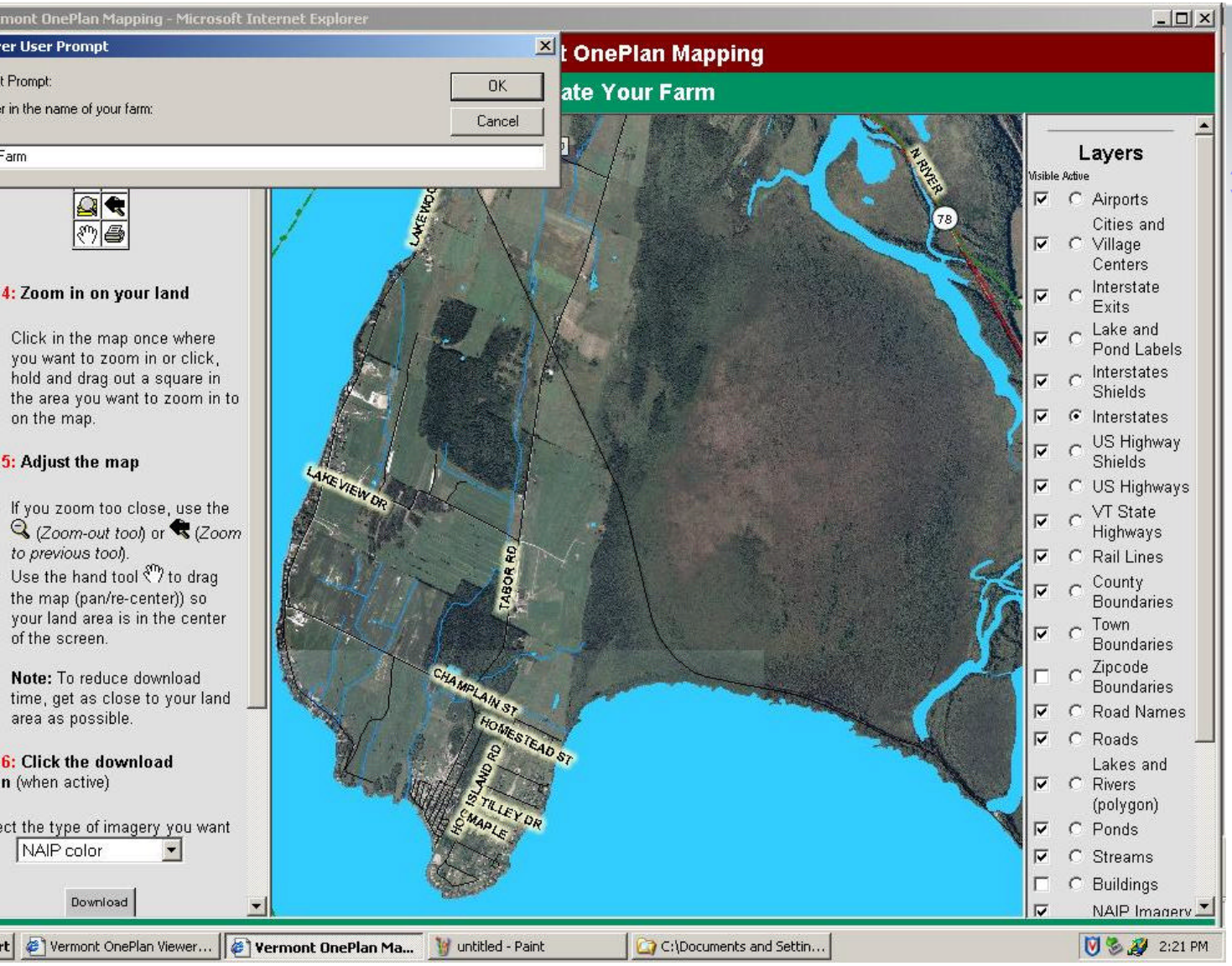
- Locate farm
  using one o
  five options

Finding The Farm



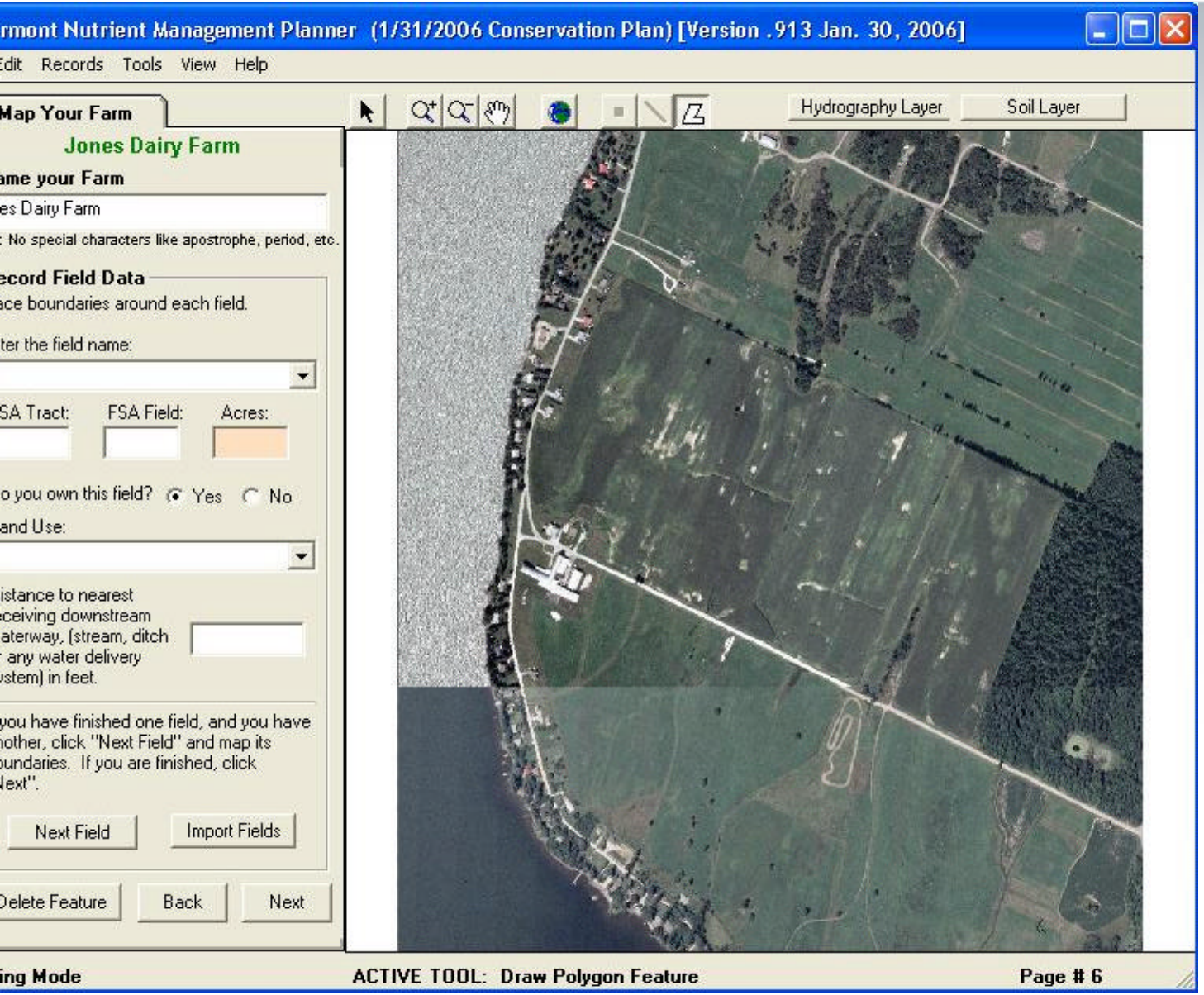
- Zooming in using the town option

Downloading Local Data



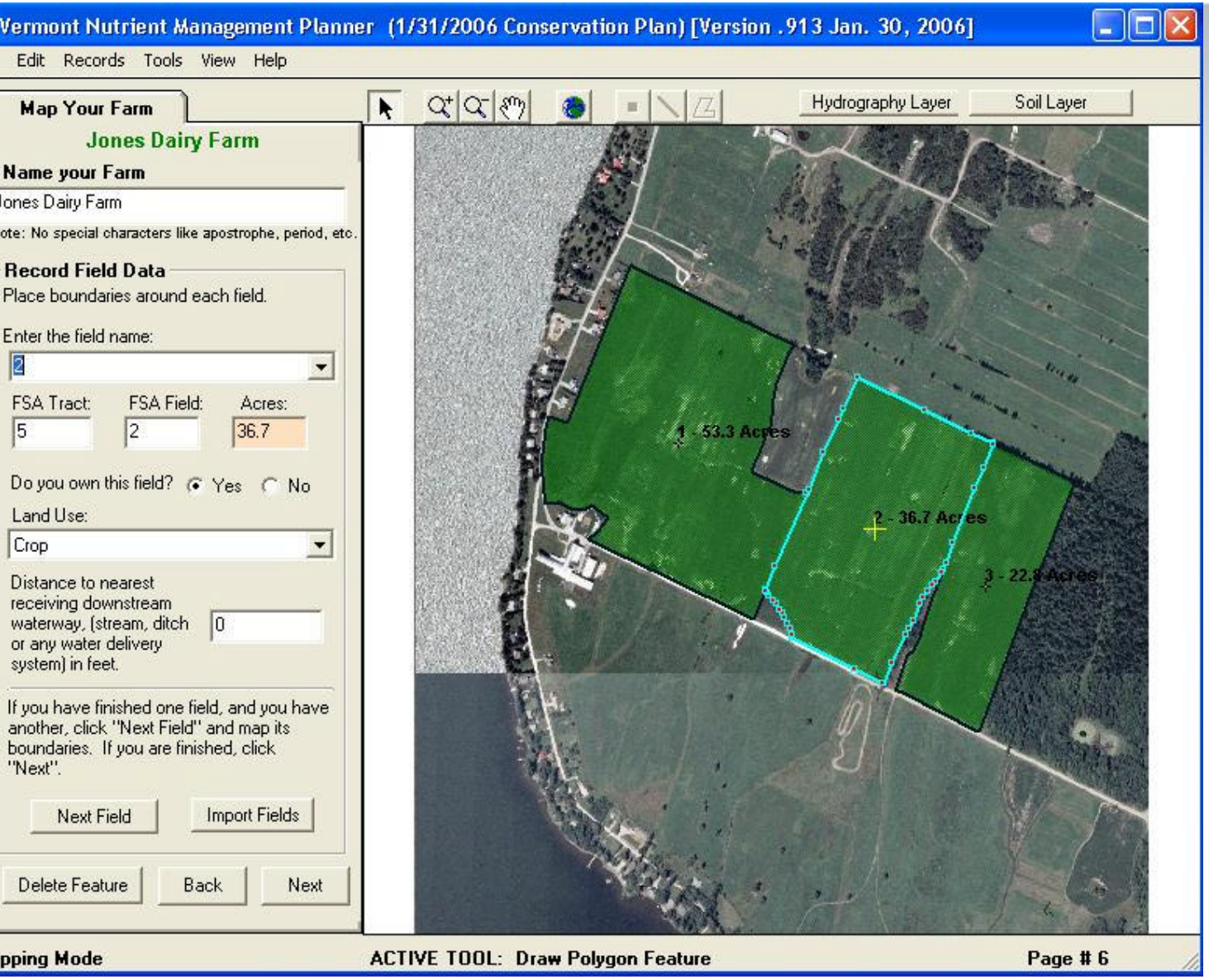
- Once the farm area is located loca data is downloaded including: imagery; soils; watersheds climate; and hydrography

Mapping The Farm



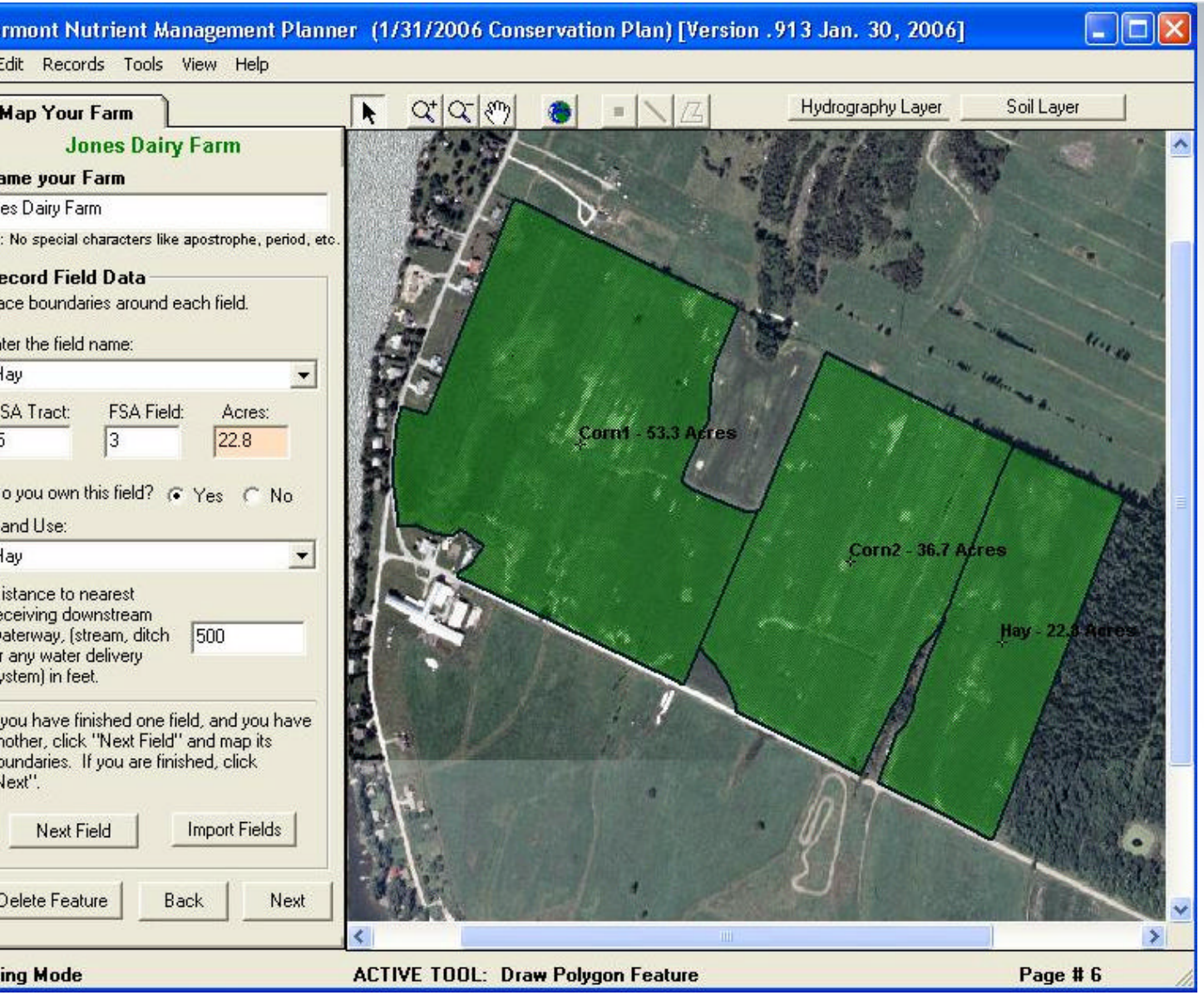
- Name the Farm and delineate fie using a digitizing too that calculat field size an soil characteristi

mporting Field Shape Files



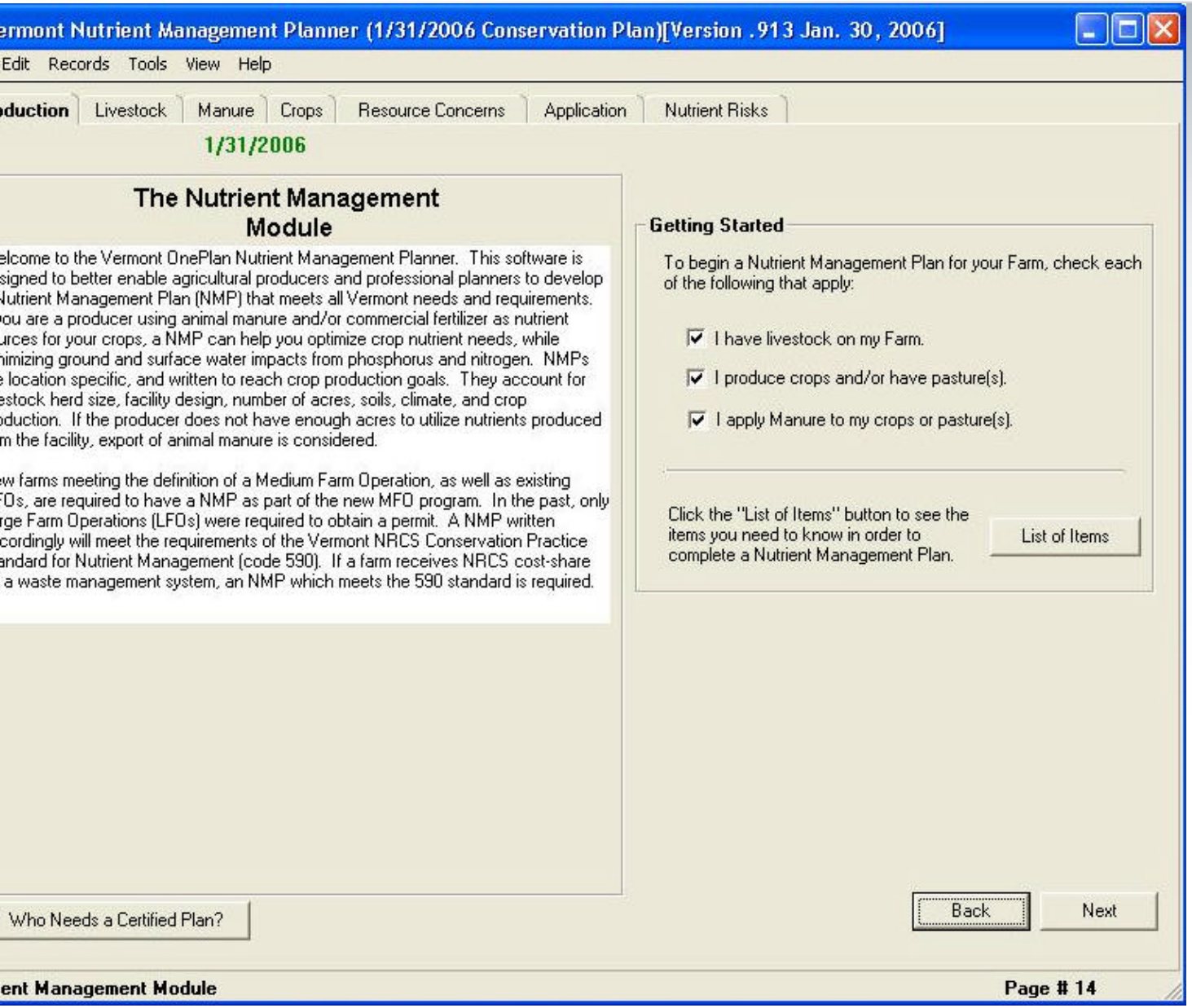
- Import field boundaries from other GIS softwar including th NRCS Customer Service Toolkit

Mapping Other Farm Features



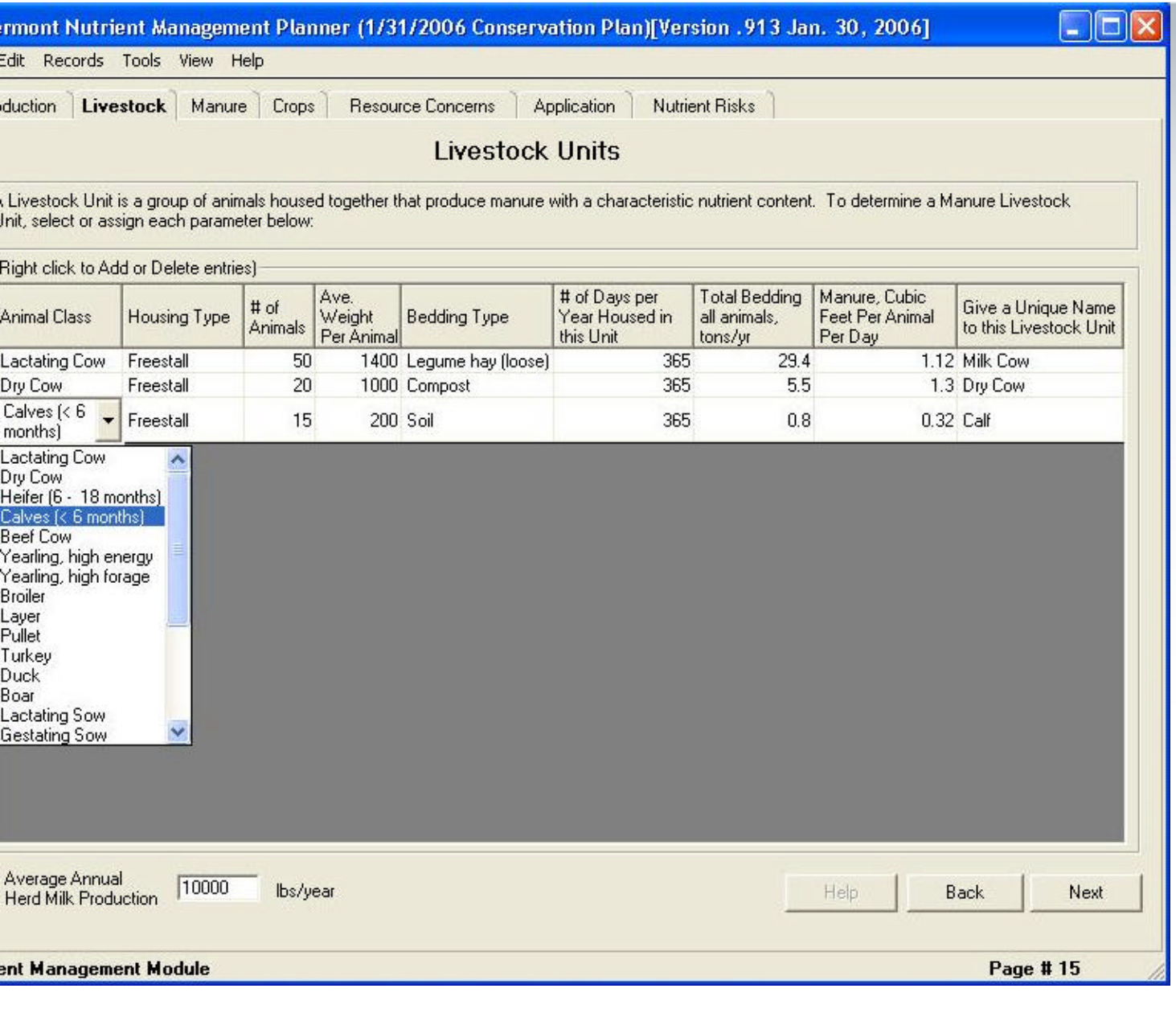
- Map farmstead and field based features including buildings, barnyards, wells, spring and riparian areas

Nutrient Management



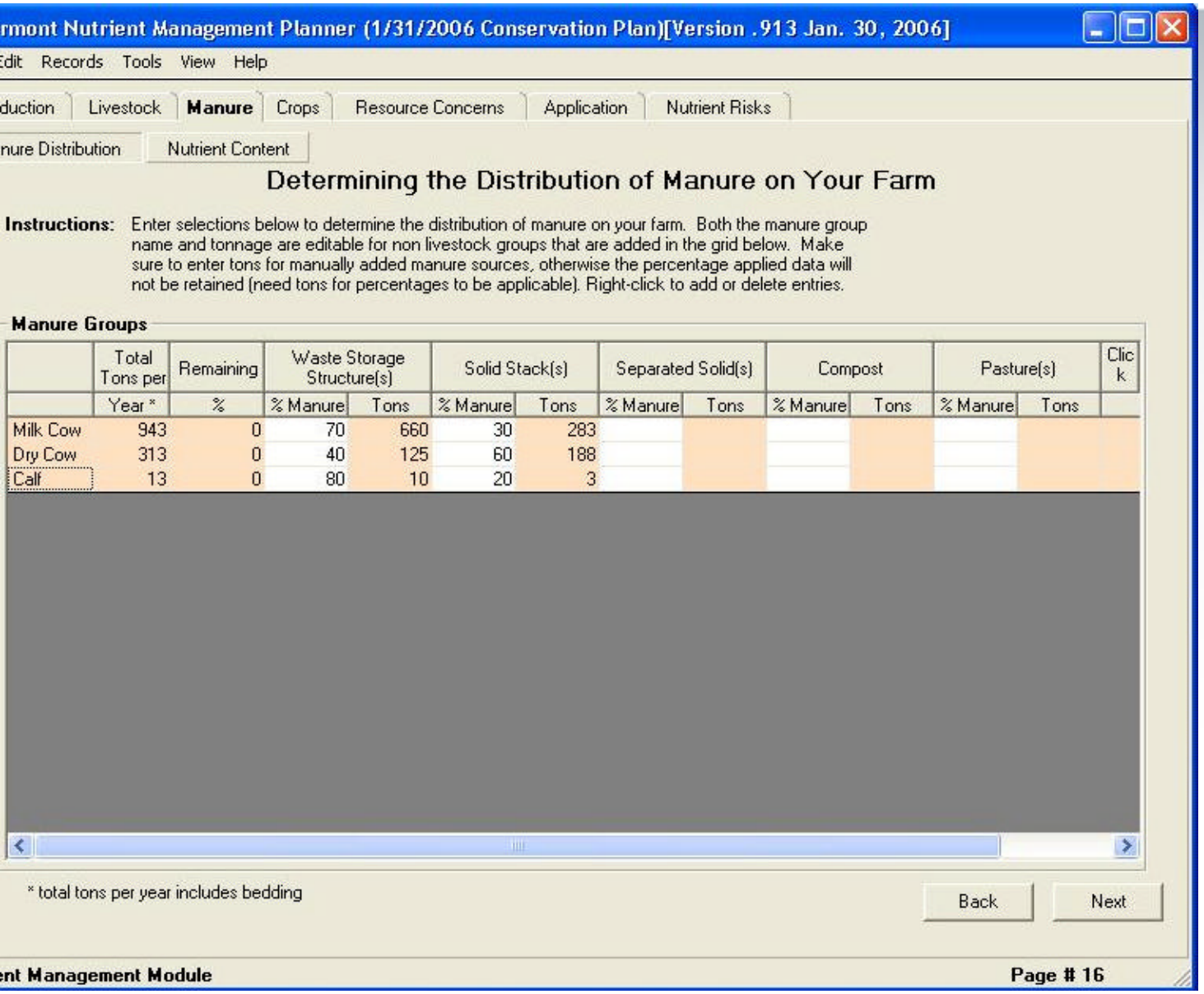
- Describe the basics to establish general navigation

Livestock Characteristics



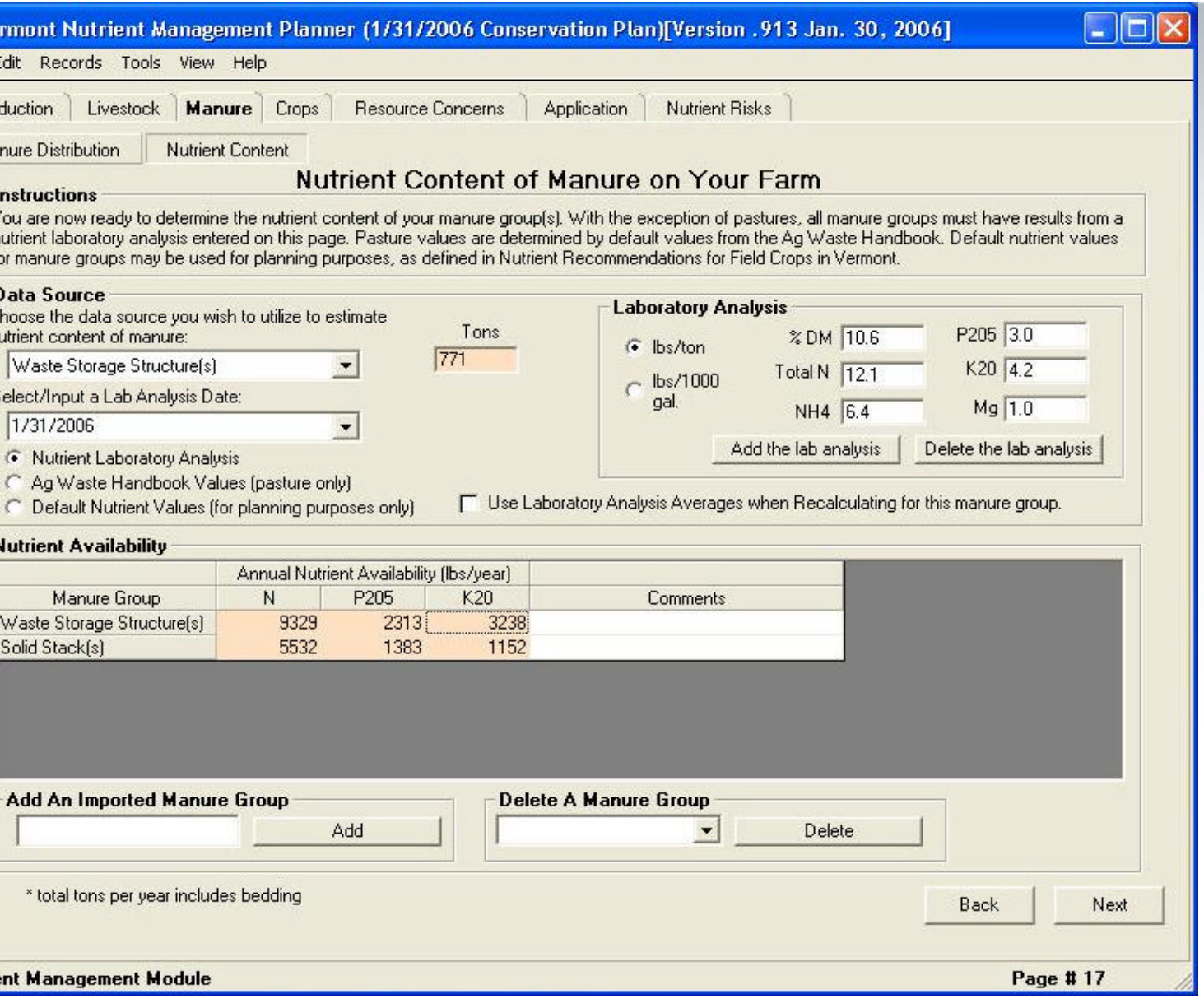
- Grids with drop down cells allow you to describe yo livestock units
- Animal numbers, weight, housing typ etc. are all

Distributing Manure



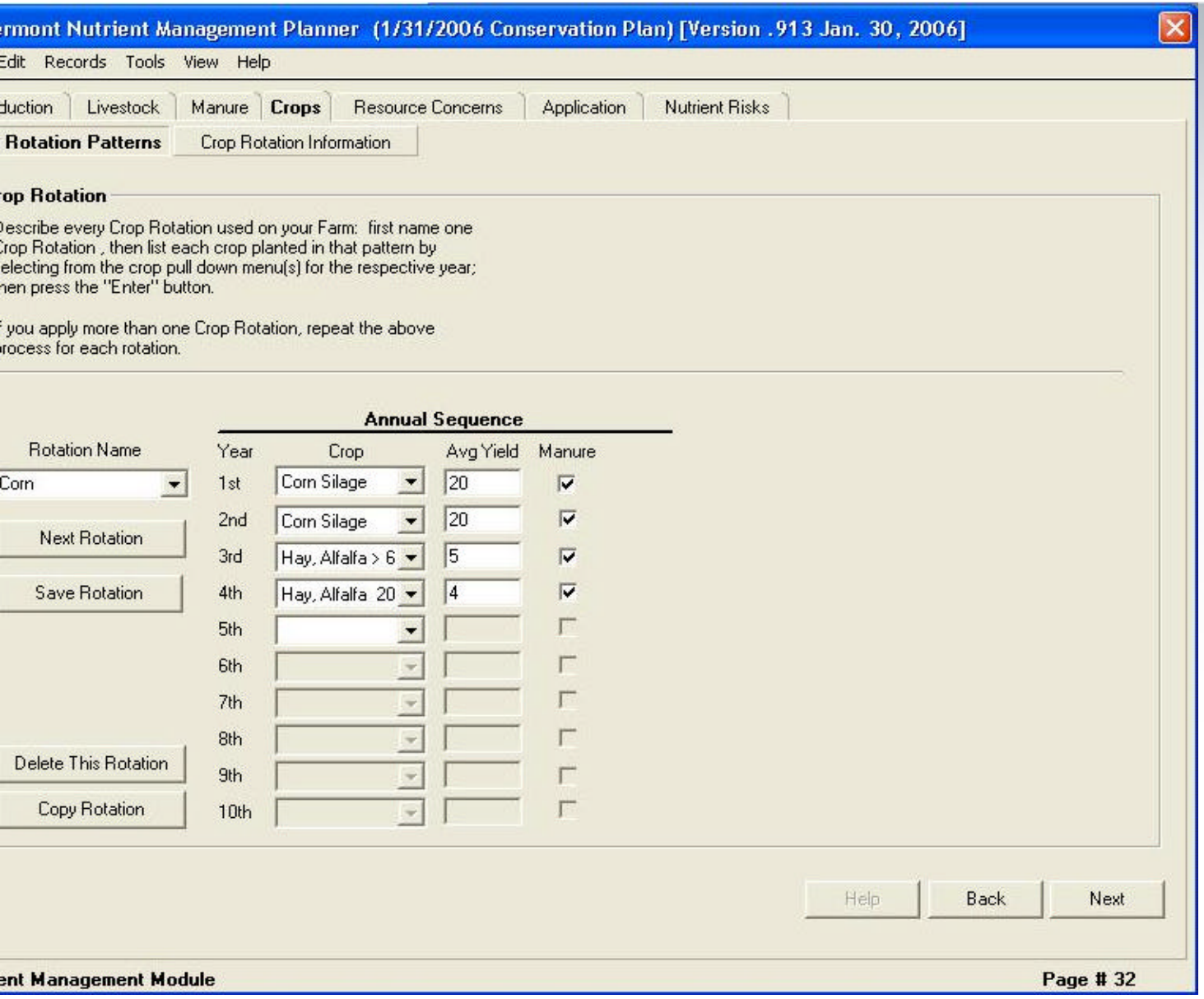
- Determine manure groups by animal and other source to track the waste strea that needs t be managed

Quantifying N, P, and K



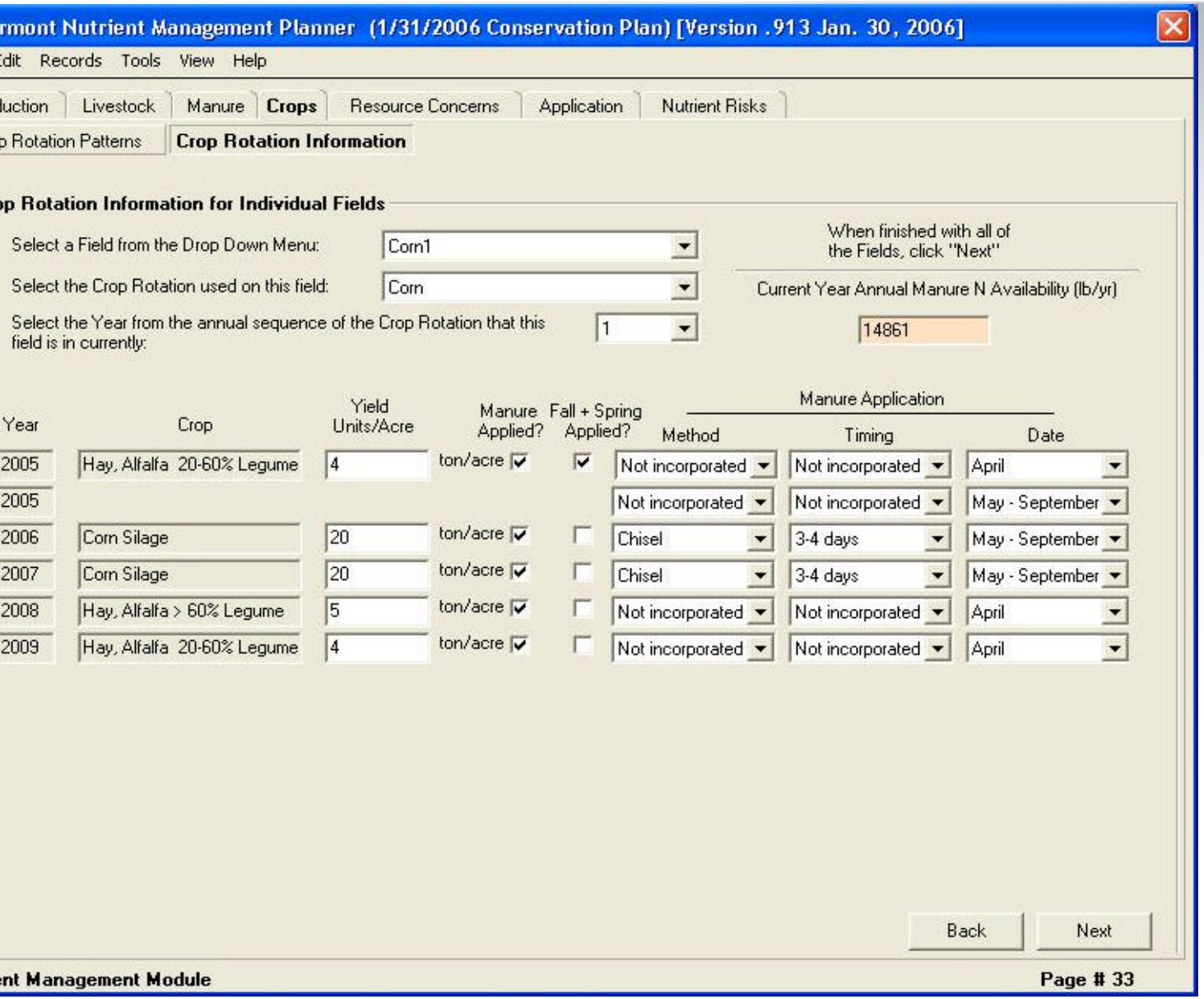
- Determine t nutrient valu and amount of each manure gro and/or impo manure

Crop Rotation



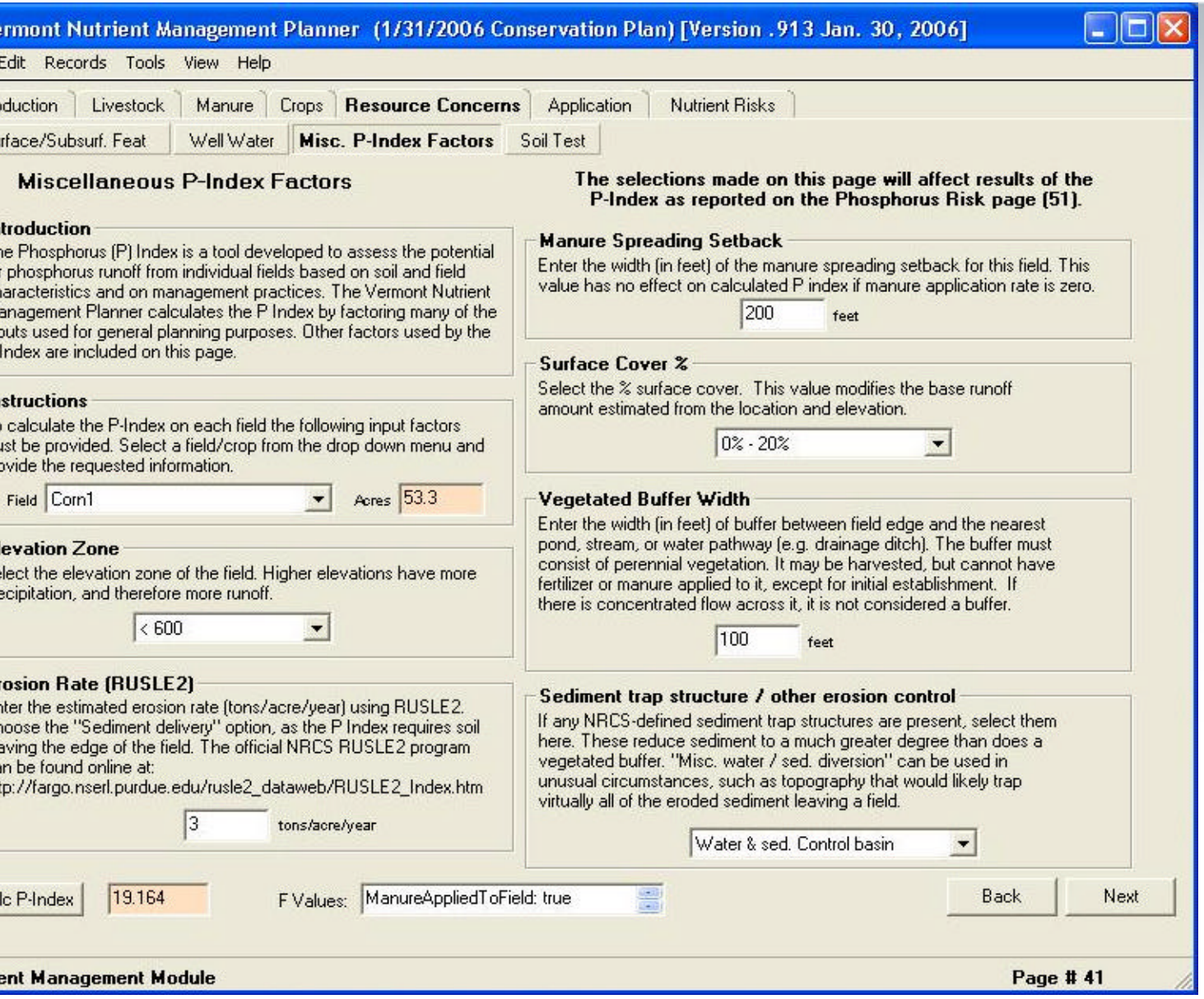
- Describe the crop rotation and yields across the farm

Field Specific Crop Information



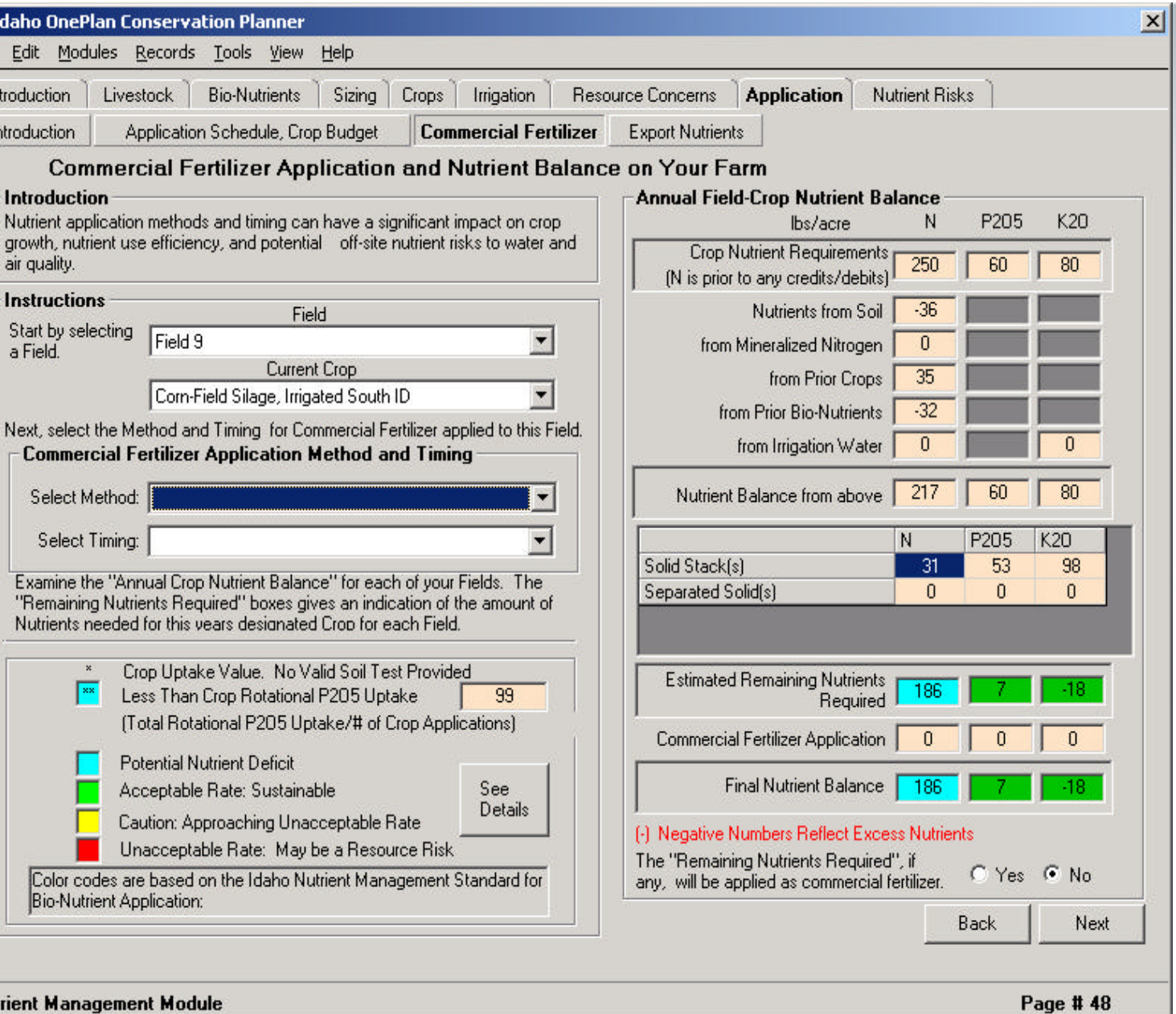
- Assign crop rotations to individual fields and describe the manure application strategy

Phosphorus Index Factors



- Input remaining field specific Phosphorus Index factor

Optimizing Nutrient Applications



- Apply manu to fields
- Describe manure spreaders
- Determine t best nutrien application strategy

Summary

- Point (farmstead) and Nonpoint (field-based) management is critical
- Farmstead controls continue to be a focus
- Field-based controls, especially nutrient management, are now a regulatory focus

Summary (continued)

Nutrient management planning is no longer primarily production driven

NMPs have complex technical requirements that result in comprehensive documents that are often :

- Poorly understood
- Difficult to develop
- Difficult to change and update
- Poorly Implementation and followed

Computer aided approaches that are used by farmers either on their own or with technical help are essential


Thank You