TSP Training

June 21 – Green Bay, WI

June 23 – Eau Claire, WI

June 30 – Madison, WI

Why are we here?

Better serve our mutual clients by:

- Understanding Planning Policy Needs
- Defining resource concerns & Document them
- Describe bench mark conditions (measure the impact of our planning)
- Use the tools & CPA 52 to verify the planning steps
- Better Understanding the products needed so we all gain efficiency

NRCS Conservation Planning Policy is founded in history & Success working with clients

- **Policy: National Planning Procedures Handbook (NPPH) Part 600.10-600.12**

What is conservation planning?

United States Department of Agriculture

Natural Resource Information

- **What is a resource concern?**
  - **An expected degradation of the soil, water, air, plant, or animal resource base to the extent that the sustainability or intended use of the resource is impaired.**

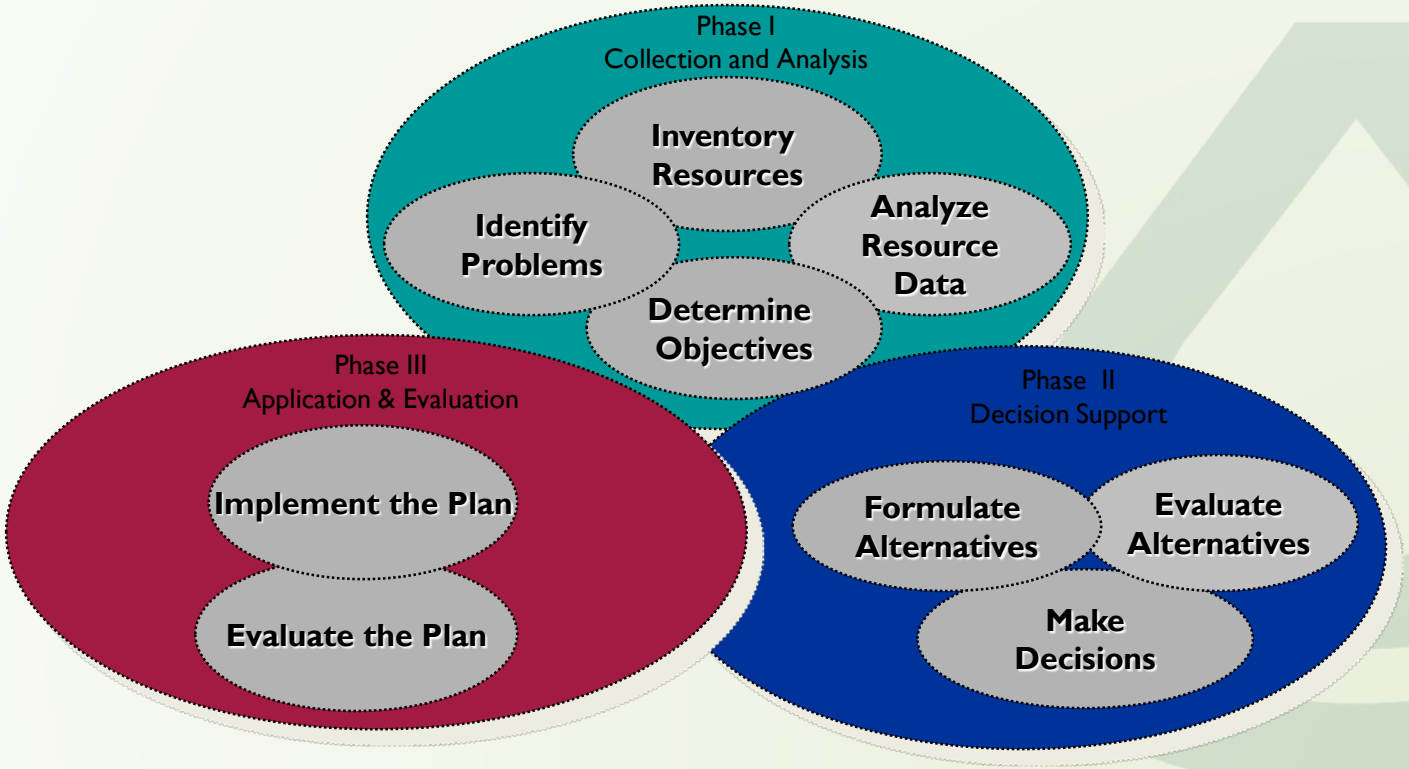
- **S**oil
- **W**ater
- **A**ir
- **P**lants
- **A**nimals
- **E**nergy

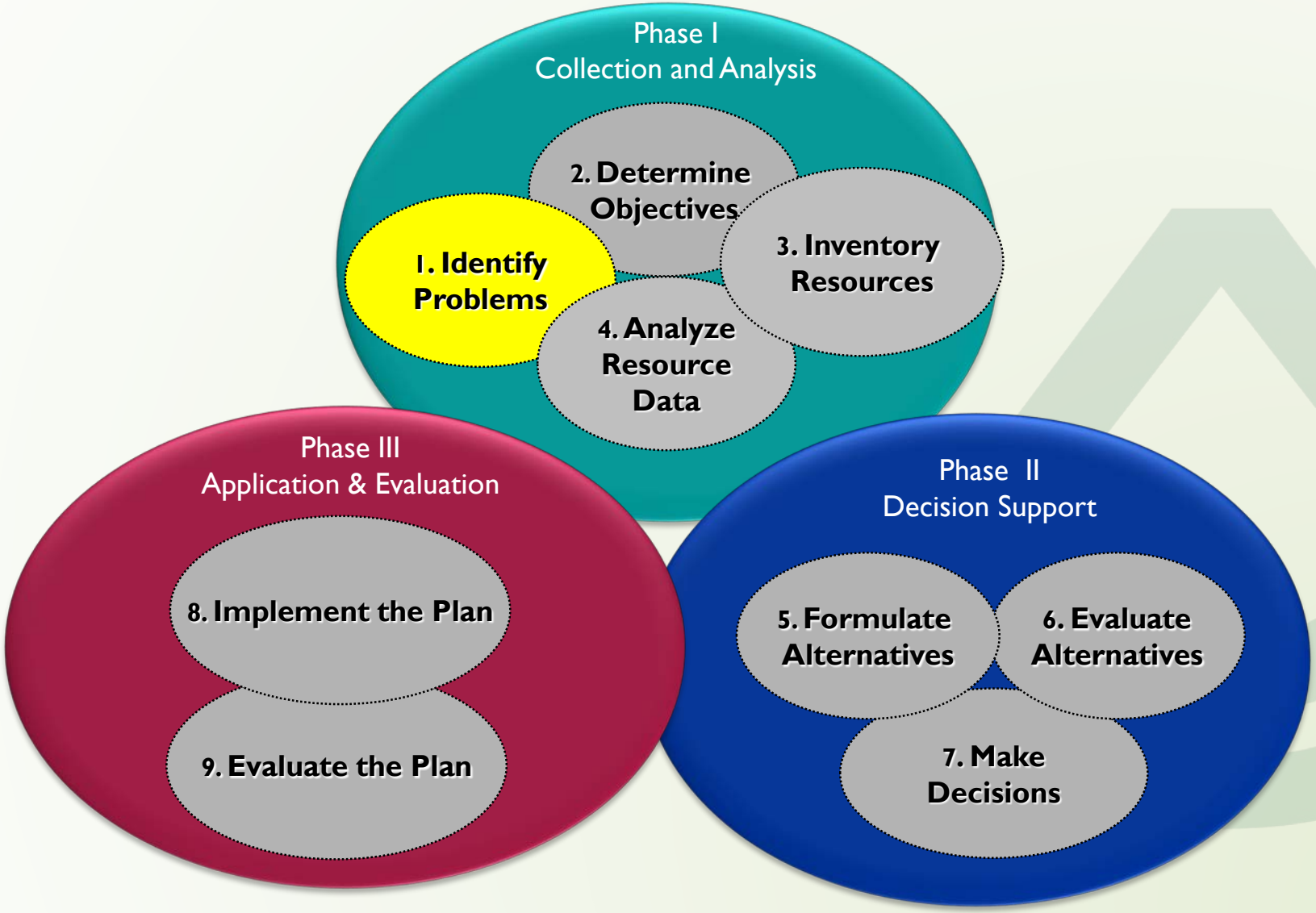
SWAPAE

Resource Concerns

- SOIL EROSION
  - Sheet, Rill, & Wind Erosion
  - Concentrated Flow Erosion
  - Excessive Bank Erosion From Streams, Shorelines, or Water Conveyance Channels
- SOIL QUALITY DEGRADATION
  - Compaction
  - Organic Matter Depletion
- EXCESS / INSUFFICIENT WATER
  - Ponding, Flooding, Seasonal High Water Table, Seeps, and Drifted Snow
  - Inefficient Use of Irrigation Water
- WATER QUALITY DEGRADATION
  - Excess Nutrients in Surface and Groundwaters
  - Pesticides Transported to Surface and Groundwaters
  - Excess Pathogens and Chemicals From Manure, Bio-solids, or Compost Applications in Surface Waters and Groundwaters
  - Petroleum, Heavy Metals, and Other Pollutants, Transported to Waters
  - Excessive Sediment in Surface Waters
  - Elevated Water Temperature
- LIVESTOCK PRODUCTION LIMITATION
  - Inadequate Feed and Forage
  - Inadequate Livestock Shelter
  - Inadequate Livestock Water
- INADEQUATE HABITAT FOR FISH AND WILDLIFE
  - Habitat Degradation (Food, Water, Cover/Shelter, and Habitat Continuity/Space)
- DEGRADED PLANT CONDITION
  - Undesirable Plant Productivity and Health
  - Inadequate Structure and Composition
  - Excessive Plant Pest Pressure
  - Wildfire Hazard, Excessive Biomass Accumulation
- AIR QUALITY IMPACTS
  - Emissions of Particulate Matter (PM) and PM Precursors
  - Emissions of Greenhouse Gases (GHGs)
  - Emissions of Ozone Precursors
  - Objectionable Odors
- INEFFICIENT ENERGY USE
  - Equipment and Facilities
  - Farming/Ranching Practices and Field Operations

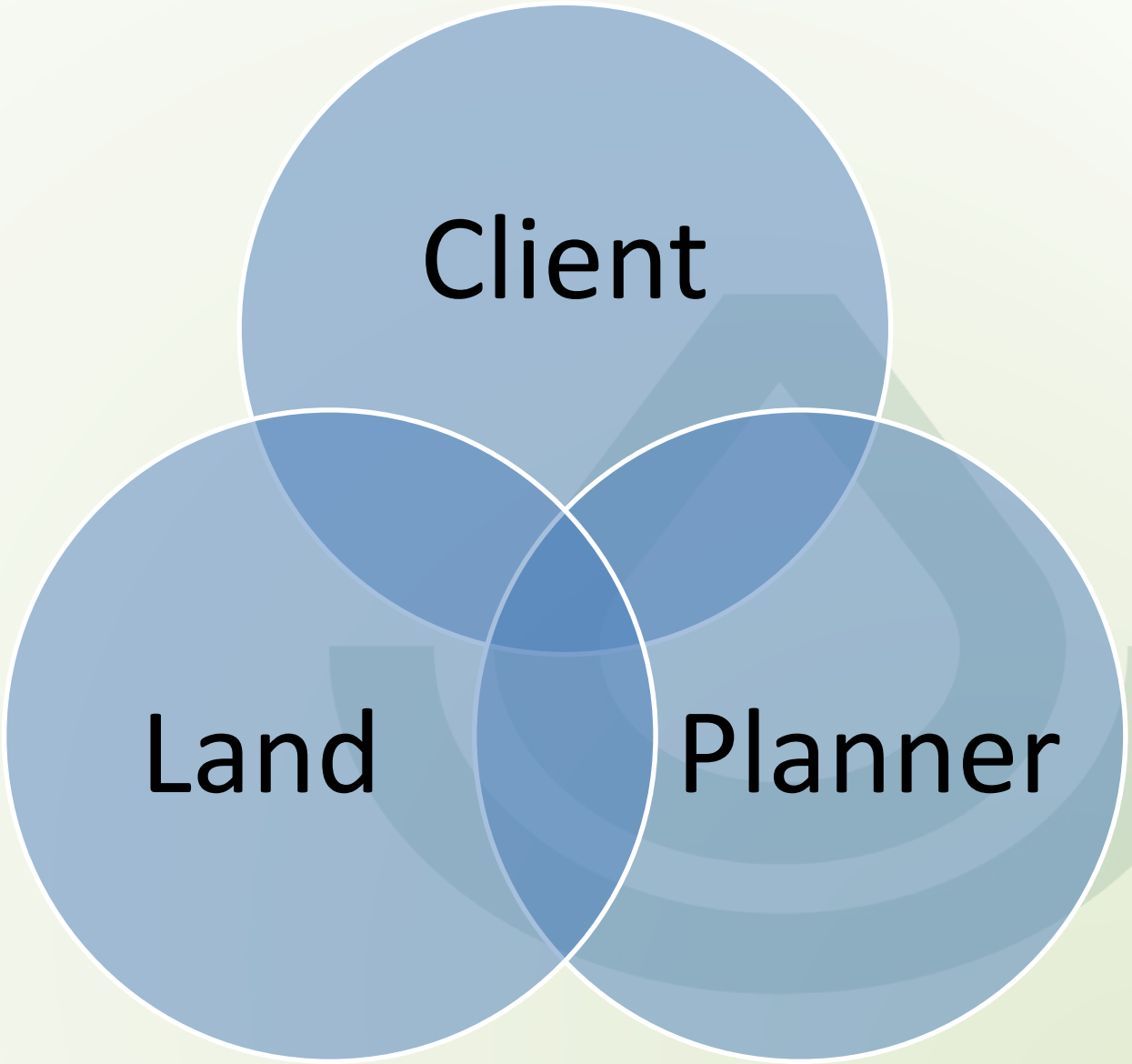
9 step Planning Process




Phase I
Collection and Analysis
1. Identify Problems
2. Determine Objectives
3. Inventory Resources
4. Analyze Resource Data
Phase II
Decision Support
5. Formulate Alternatives
6. Evaluate Alternatives
7. Make Decisions
Phase III
Application & Evaluation
8. Implement the Plan
9. Evaluate the Plan

<u>Objective of Step 1</u> -

Identify the client's resource problems, opportunities, and concerns for the planning area



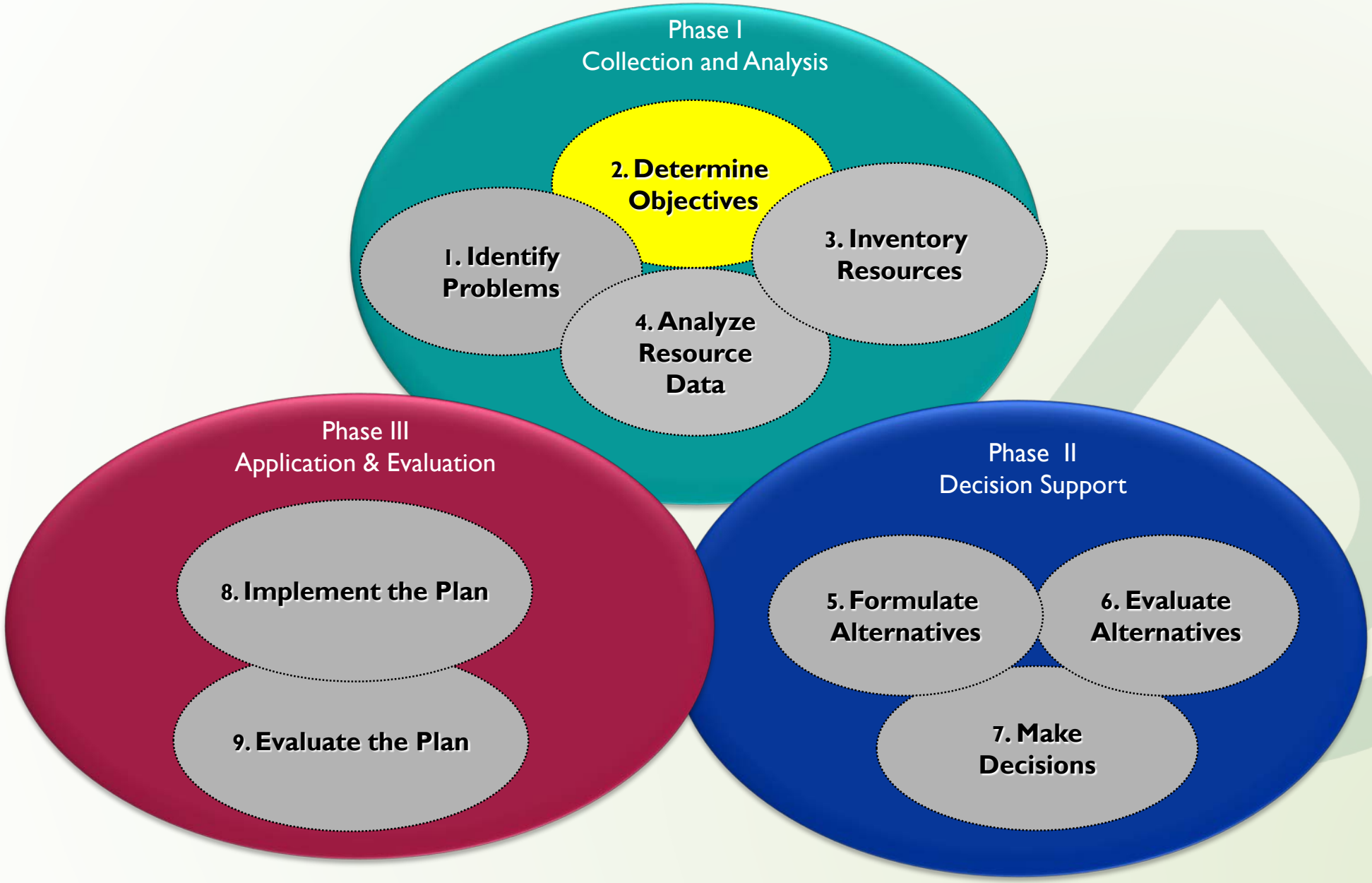
Identify the Problem:

- Had some erosion on the Soybean Field
- Landowner seeks advice on this site
- This never happened before—big rain
- Stop the washing. Wants to farm it

Benchmark Condition

- What did we see when we first arrived?
- Is the problem the client described the real problem?
- What do we need to take inventory of?
- How do we impact the decision making process…how do we plan for successful resource management? It starts here…STEP 1

2 - SOIL EROSION – Concentrated flow erosion	Untreated classic gullies may enlarge progressively by head cutting and/or lateral widening. Ephemeral gullies occur in the same flow area and are obscured by tillage. This includes concentrated flow erosion caused by runoff from rainfall, snowmelt or irrigation water.	Crop	Conservation practices and management are in place to prevent or control ephemeral gullies OR vegetated protection exists in channels (grassed waterways) within twice the RUSLE2 planning slope (from the top of the watershed) AND classic gullies are not present.	Vegetated protection exists in channels and grassed waterways, or other control practices exists within twice the RUSLE2 planning slope (from the top of the watershed)	Client input & Planner I&E
				Tons/year ≤ 4 or ≤ T ephemeral gullies)	Field measurements - Direct Volume method [Density * (LxWxD)] * times per year/2000
					Ephemeral and Gully Erosion Worksheet
				Capacity for design storms adequate	Grassed Waterway Design Spreadsheet
				Classic gully management is adequate to stop the progression of head cutting and widening and offsite impacts are minimized by vegetation and/or structures.	Client input & Planner I&E
				Tons/year ≤ 4 (classic gullies)	Field measurements - Direct Volume method [Density * (LxWxD)]/2000/years to form. Ephemeral and Gully Erosion Worksheet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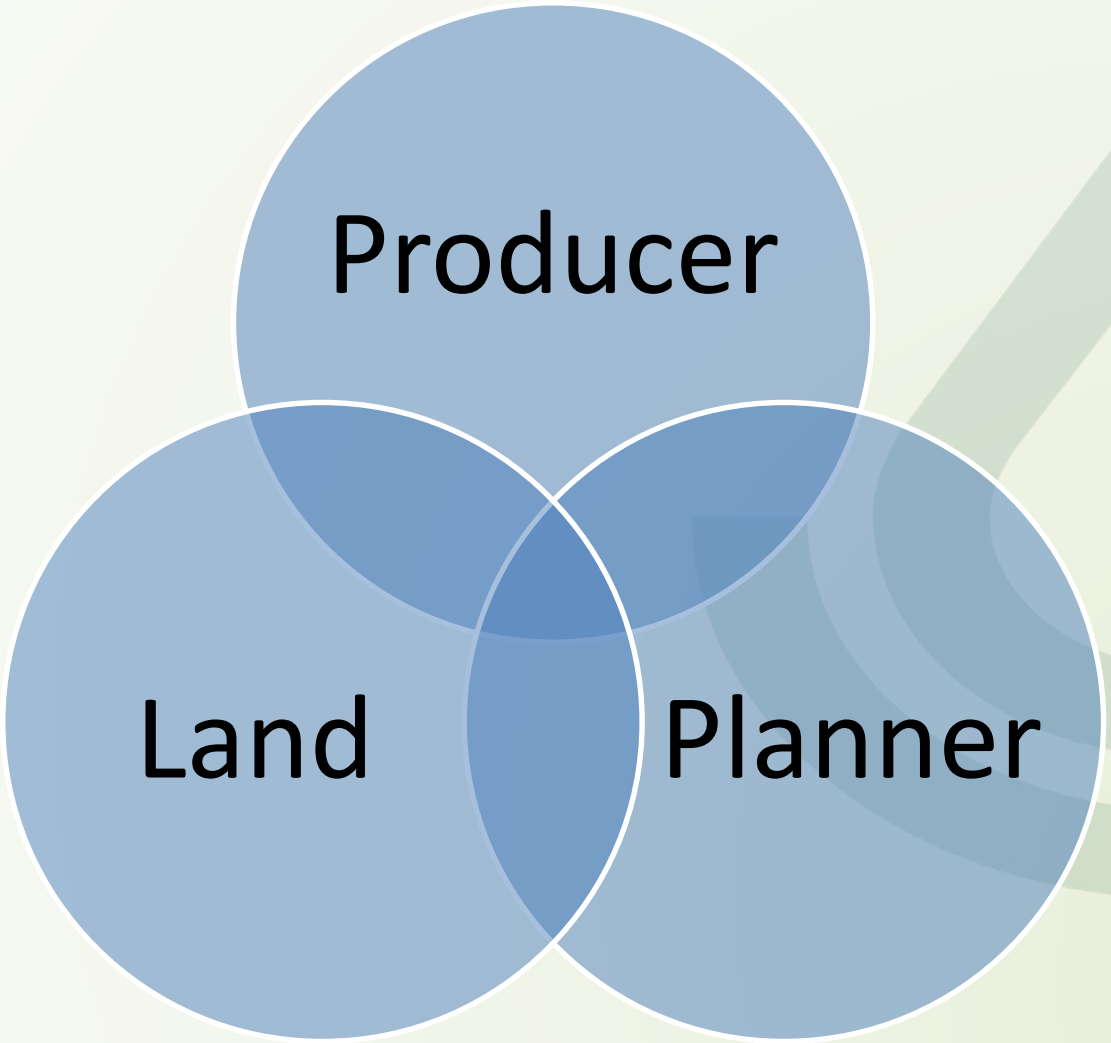
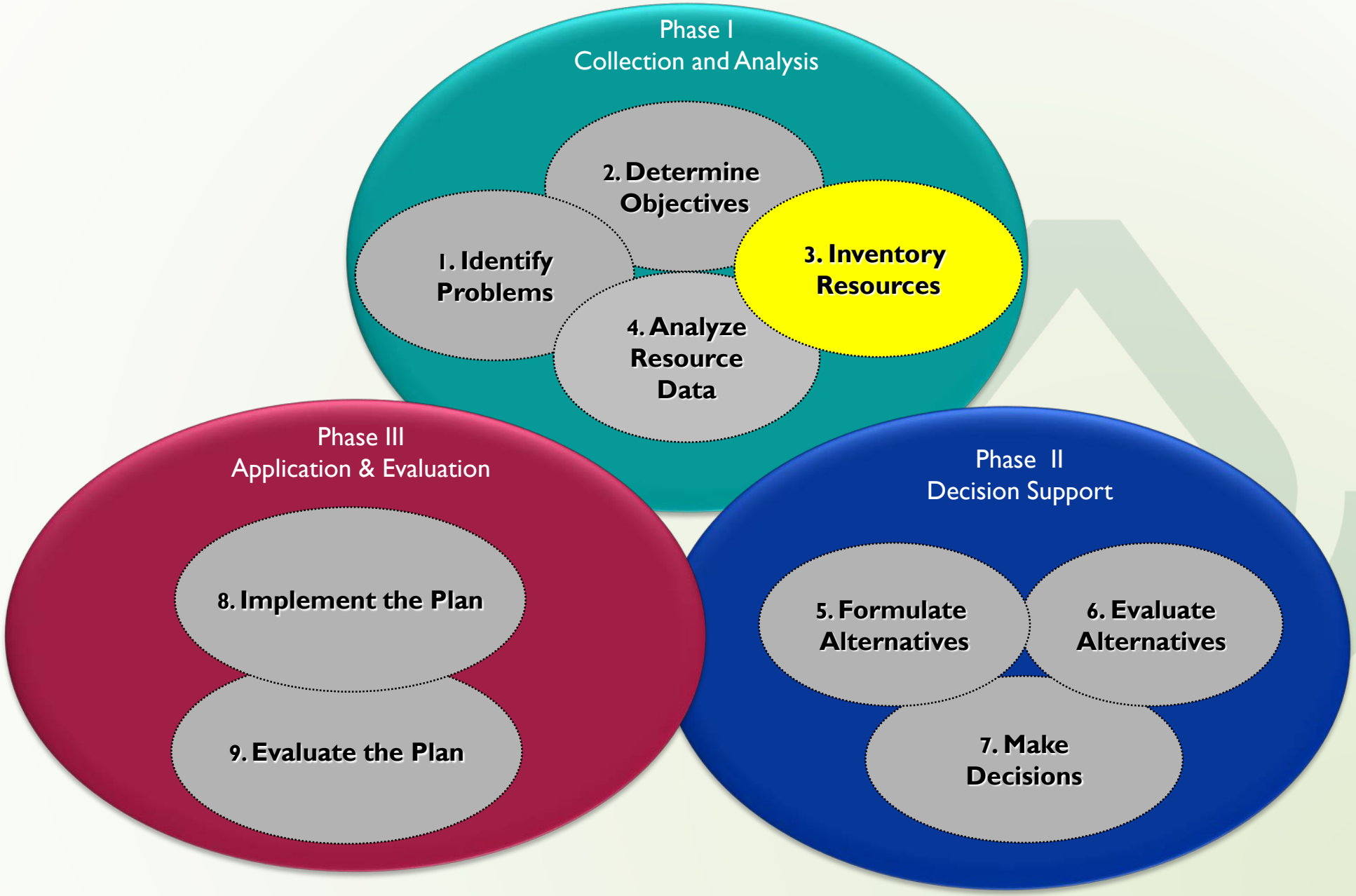
Look familiar. . . From Step 1



<u>Objective of Step 2</u> - Determine the client's planning objectives, based on the client's needs and values regarding the use, treatment, and management of the planning area

What could be an objective?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Objective of Step 3 Inventory

- **<u>Objective of Step 3</u> – Collect appropriate resource, economic & social information about the planning area**

What’s Going on Here?

Resource Concerns

- SOIL EROSION
  - Sheet, Rill, & Wind Erosion
  - Concentrated Flow Erosion
  - Excessive Bank Erosion From Streams, Shorelines, or Water Conveyance Channels
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  - Farming/Ranching Practices and Field Operations

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Wisconsin
United States Department of Agriculture

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Celebrate National Volunteer Week

Wisconsin Earth Team Conservation Volunteers Honored

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Popular Topics

- Field Office Technical Guide
- Conservation Planning
- Engineering
- Wisconsin Publications
- Volunteer! Join Earth Team

Sign up for email updates: Go

In the News | **Events & Deadlines**

- NRCS Conservation Local Work Group Meeting Schedule Announced for 2016
- Lower Fox Demonstration Farms Network "Field Day and Open House" to Be Held in Green Bay Area on June 15
- NRCS to Help Farmers Measure Conservation Impacts on Water Quality
- Wisconsin Conservation

Highlights

View Producer Info Securely Online Through Conservation Client Gateway

Environmental Quality Incentives Program

Conservation Stewardship Program

Regional Conservation Partnership Program

Agricultural Conservation Easement Program

Web Soil Survey

Farm Bill

Technical Resources

- Conservation Planning
- Ecological Science
- Natural Resources Assessment
- Data, Maps & Analysis
- Tools & Applications
- Technical References
- Field Office Technical Guide (FOTG)
- Engineering
- Economics
- Environmental Markets
- Alphabetical Listing

FOTG a component of SmarTech

Go to Your State's FOTG

Field Office Technical Guide (FOTG)

What is FOTG?

Technical guides are the primary scientific references for NRCS. They contain technical information about the conservation of soil, water, air, and related plant and animal resources.

Technical guides used in each field office are localized so that they apply specifically to the geographic area for which they are prepared. These documents are referred to as Field Office Technical Guides (FOTGs).

Appropriate parts of the Field Office Technical Guides are automated as data bases, computer programs, and other electronic-based materials such as those included in these web based pages.

What information is located in FOTG

Section I — General References
In this section you will find general state maps, descriptions of Major Land Resource Areas, watershed information, and links to NRCS reference manuals and handbooks. Section I contains links to researchers, universities, and agencies we work. Section I also contains conservation practice costs, agricultural laws and regulations, cultural resources, and information about protected plant and animal species.

Section II — Soil and Site Information
In this section you will find detailed information about soil, water, air, plant, and animal resources. NRCS Soil Surveys, Hydric Soils Interpretations, Ecological Site Descriptions, Forage Suitability Groups, Cropland Production Tables, Wildlife Habitat Evaluation Guides, Water Quality Guides, and other related information can be found here as it becomes available.

United States Department of Agriculture
NRCS Natural Resources Conservation Service

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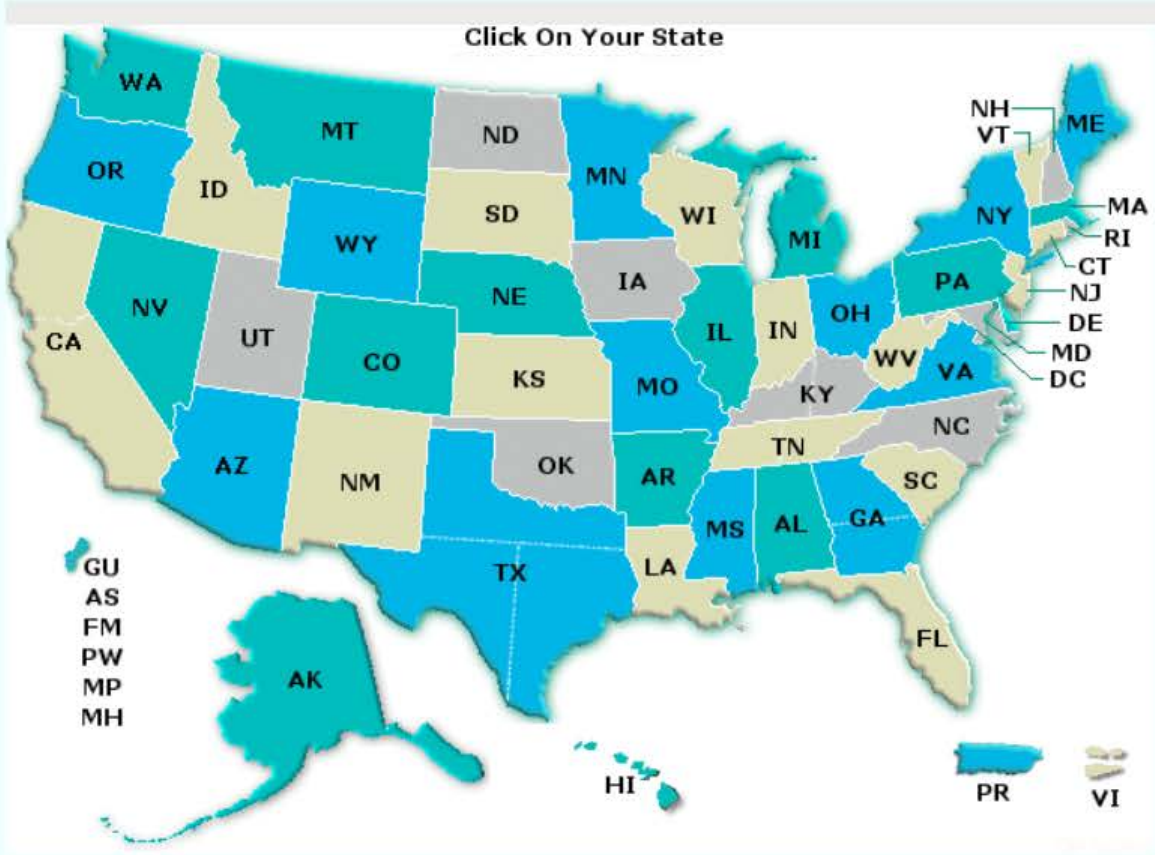
FOTG a component of SmarTech
Field Office Technical Guide

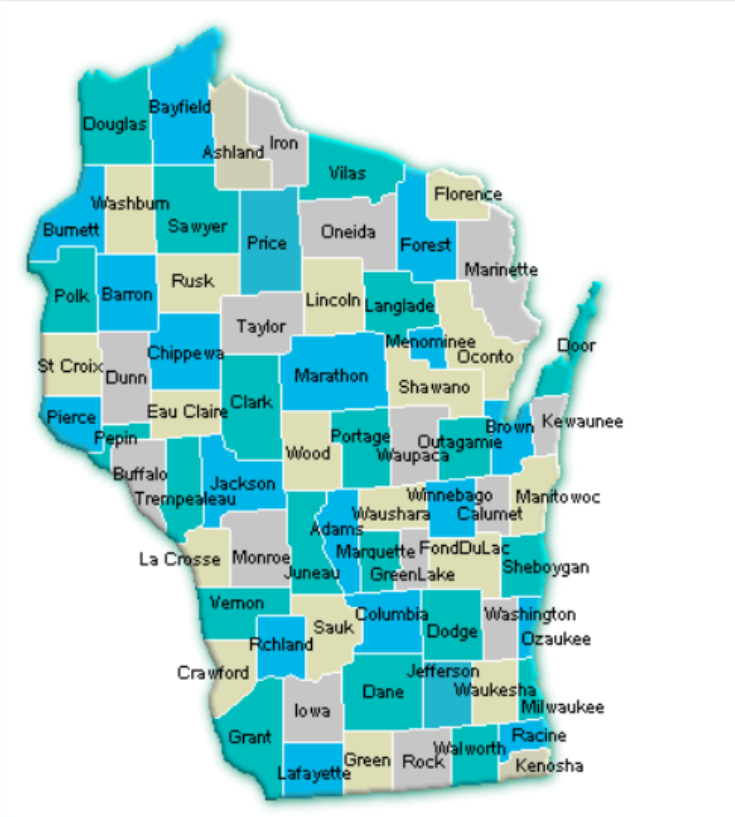


FOTG County Locator

Select your State of interest by clicking the map to the left.

USDA
United States Department of Agriculture

Wisconsin



Back to US Map

FOTG County Locator

Select your County of interest by clicking the map to the left.

- To select a different state, click here.

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OUTAGAMIE COUNTY, WI

FOTG a component of SmarTech

Field Office Technical Guide

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  - Reference Lists
  - Cost Data
  - Maps
  - Erosion Prediction
  - Climate Data
  - Threatened and Endangered Species
  - State/Local Laws, Ordinances, Regulations
  - CNMP
  - Irrigation

FOTG Home Page

What is FOTG?

Technical guides are the primary scientific references for NRCS. They contain technical information about the conservation of soil, water, air, and related plant and animal resources.

...more

For additional information and requirements please contact your local USDA Service Center.

What's in FOTG?

Section I	- General References
Section II	- Natural Resources Information
Section III	- Conservation Management Systems
Section IV	- Practice Standards and Specifications
Section V	- Conservation Effects

...more

In The Spotlight

Tools

Technical Materials

What's Changed Recently

670 - Practice Standard (6/17/2016)
106 - Forest Management Plan Checklist (6/17/2016)
004. Concrete (6/17/2016)
Wisconsin Planning Criteria Assessment Tools Methods (6/16/2016)
Comprehensive Nutrient Management Plan (6/16/2016)
000. Conservation Practice Standards Index (6/8/2016)
585 - Job Sheet (6/8/2016)
585 - Statement of Work (6/8/2016)
585 - Practice Standard (6/8/2016)
604 - Statement of Work (6/8/2016)
604 - Practice Standard (6/8/2016)
345 - Job Sheet (6/8/2016)
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315 - Practice Standard (6/8/2016)
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386 - Job Sheet (6/8/2016)
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331 - Practice Standard (6/8/2016)
326 - Practice Standard (6/8/2016)

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FOTG – Tools for Inventory

- Section I - General References
  - General maps, cost data
  - Erosion prediction tools
  - CNMP information
- Section II - Natural Resources Information
  - Soils
  - Cultural resources
  - T&E species
  - WEPS
  - RUSLE2
  - Forage Suitability Groups (FSG)
- Section III – Conservation Management Systems
  - Criteria for Conservation Activity Plans (CAP)
  - Planning criteria
- Section IV – Practice Standards and Specifications
  - Standards
  - Technical Notes

http://www.nrcs.usda.gov/wps/portal/nrcs/site/wi/home/

Special Environmental Concerns

- Clean Air Act
- Clean Water Act
- Coastal Zone Management
- Coral Reefs
- Cultural Resources/Historic Properties
- Endangered and Threatened Species
- Environmental Justice
- Essential Fish Habitat
- Floodplain Management
- Invasive Species
- Migratory Birds/Bald and Golden Eagle Protection Act
- Natural Areas
- Prime and Unique Farmland
- Riparian Area
- Scenic Beauty
- Wetlands
- Wild and Scenic Rivers

Tools and References

Tools

- Clinometer
- Hand level
- Tape measure
- Range pole
- Survey rod
- Laser level
- Residue string counter
- Hand lens
- Soil probe
- Tile probe
- Penetrometer
- Shovel
- Camera
- Smartphone

References

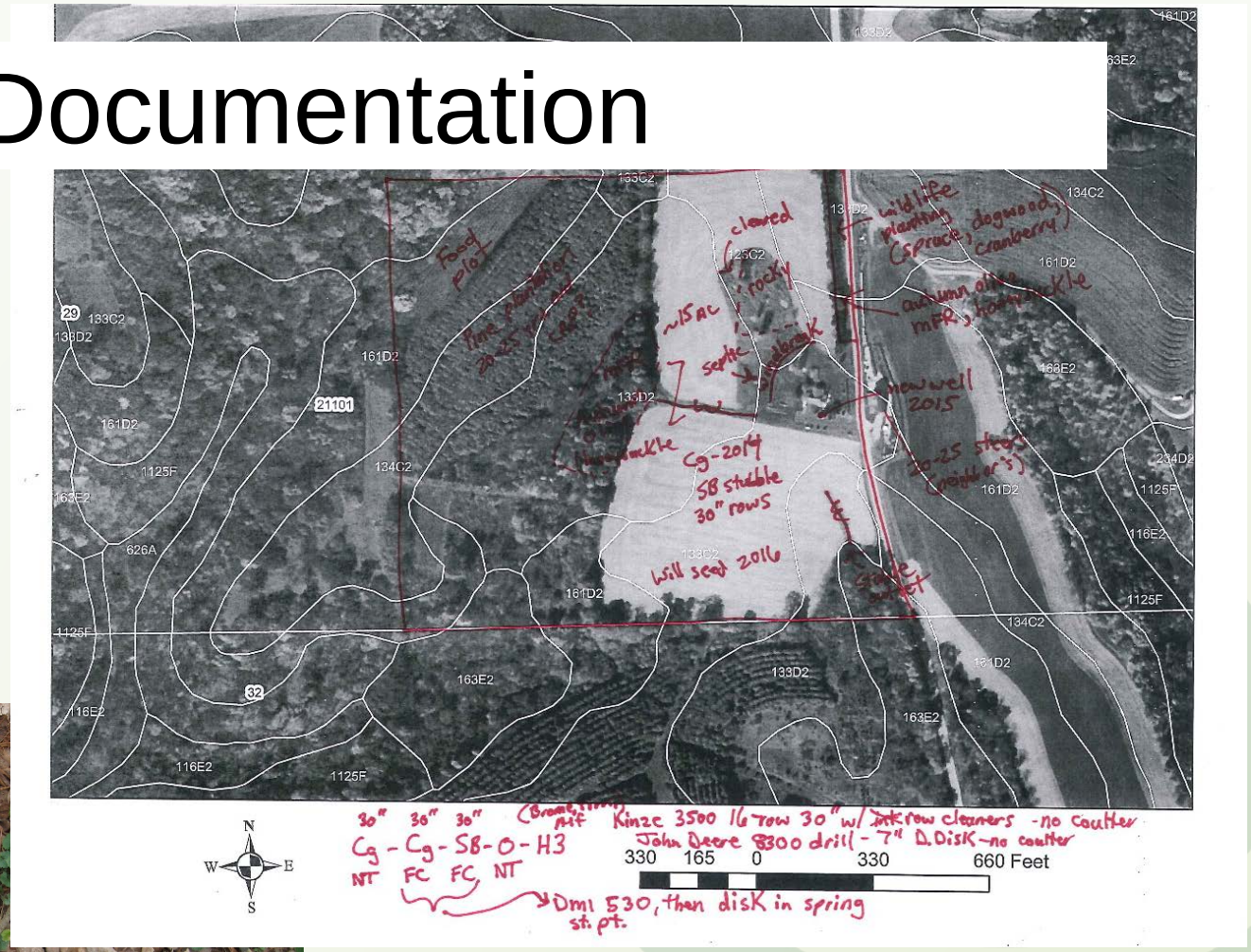
- NRCS manuals and handbooks
  - National Agronomy Manual
  - National Engineering Manual
  - Others . . .
- University/extension publications
- Field Office Technical Guide
- Maps and mapping software
- Data collection worksheets
- NRCS sharepoint and website
- ID books
- Munsell color book

Pre-Planning

- Inventory SWAPAE+H and Special Environmental Concerns as much as possible!
  - Review case file
  - Obtain maps
    - Wetland inventory
    - Soils map
    - Aerial imagery
    - Topography map
  - Assemble proper data collection worksheets
    - How will you be taking notes?

Documentation

Field Notes



Photos

Documentation

Data Collection Sheets

NRCS Ephemeral Gully Erosion Estimator — Clear

Farmer / Cooperator Name: _____ Evaluated By: _____
Tract Number: _____ Evaluation Date: _____

Field Number	Ephemeral Gully (EG)	Gully Length (Feet)	Gully Average Width (Feet)	Gully Average Depth (Inches)	Volume (FT^3) Eroded Estimate	Soil Texture	Pounds of Soil per FT^3 Estimate	Number of Similar EGs In Field	Soil Loss (Tons per Occurrence) Estimate	Number of Occurrences per Year Estimate	Total EG Soil Loss per Year Estimate
	1										
	2										
	3										
						Total Estimated Ephemeral Gully Soil Loss Per Year (Tons/yr):					

Field Number	Ephemeral Gully (EG)	Gully Length (Feet)	Gully Average Width (Feet)	Gully Average Depth (Inches)	Volume (FT^3) Eroded Estimate	Soil Texture	Pounds of Soil per FT^3 Estimate	Number of Similar EGs In Field	Soil Loss (Tons per Occurrence) Estimate	Numl Occu s per Esti
	1									
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	1									
	2									
	3									
						Total Estimated Ephemeral Gully Soil Loss Per Year (Ton				

Total Estimated Ephemeral Gully Soil Loss Per Year (Ton

Ephemeral Gully Erosion Calculation Formula:

$$\frac{\text{Ephemeral Gully Length} \times \text{Gully Average Width} \times \text{Gully Average Depth}}{2000} \times \text{Soil Weight (lbs/ft}^3) \times \text{Number of Occurrences per Year} = \text{Es}$$

RUSLE2 Tillage and Rotation Worksheet

Producer:	Tract:	Tract:	Tract:	FOR NRCS USE	Soil Type:
Phone #:	Fields:	Fields:	Fields:	Slope Distance:	Slope Length:
**List all Fields that share this Tillage/Rotation:				Planner:	Date:

Year in Rotation:	1st	2nd	3rd	4th	5th	6th	7th
Crop							
Primary Tillage (SP, FC, SC, NT)							
Secondary Tillage							
Other Tillage							
Residue Removal							
Routinely & Uniformly Applied Manure: Type: Solid/Semi/Liquid Rate: _____/ac.							
Cultivation (specify timing and method below)							
Fertilizer Incorporation (specify type and method below)							

Notes:

Tillage Options Applied (P = Primary S = Secondary):
___Moldboard: ☐Spring ☐Fall
___Chisel: ☐Twisted ☐Straight ☐Sweep / ☐Spring ☐Fall
___Subsoiler: When:_____ In Row:_____
Type of Shank:_____ Depth:_____
___Disk: ☐Tandem ☐Offset / ☐Light ☐Heavy
☐Spring ☐Fall
___Finishers: Describe:_____
☐Spring ☐Fall
☐Twisted ☐Straight ☐Sweeps
☐Harrows ☐Gangs ☐Rollers
Cultivator/Rotary Hoe: When: _____
Type: _____

Soybean Production:
Row Spacing: ☐Narrow (-10) ☐Wide (+10")
No Till: ☐Yes ☐No) Type of drill/planter:_____
☐Double disk w/coulter ☐Double disk w/coulters & airway
☐Single disk ☐Single disk & aerway

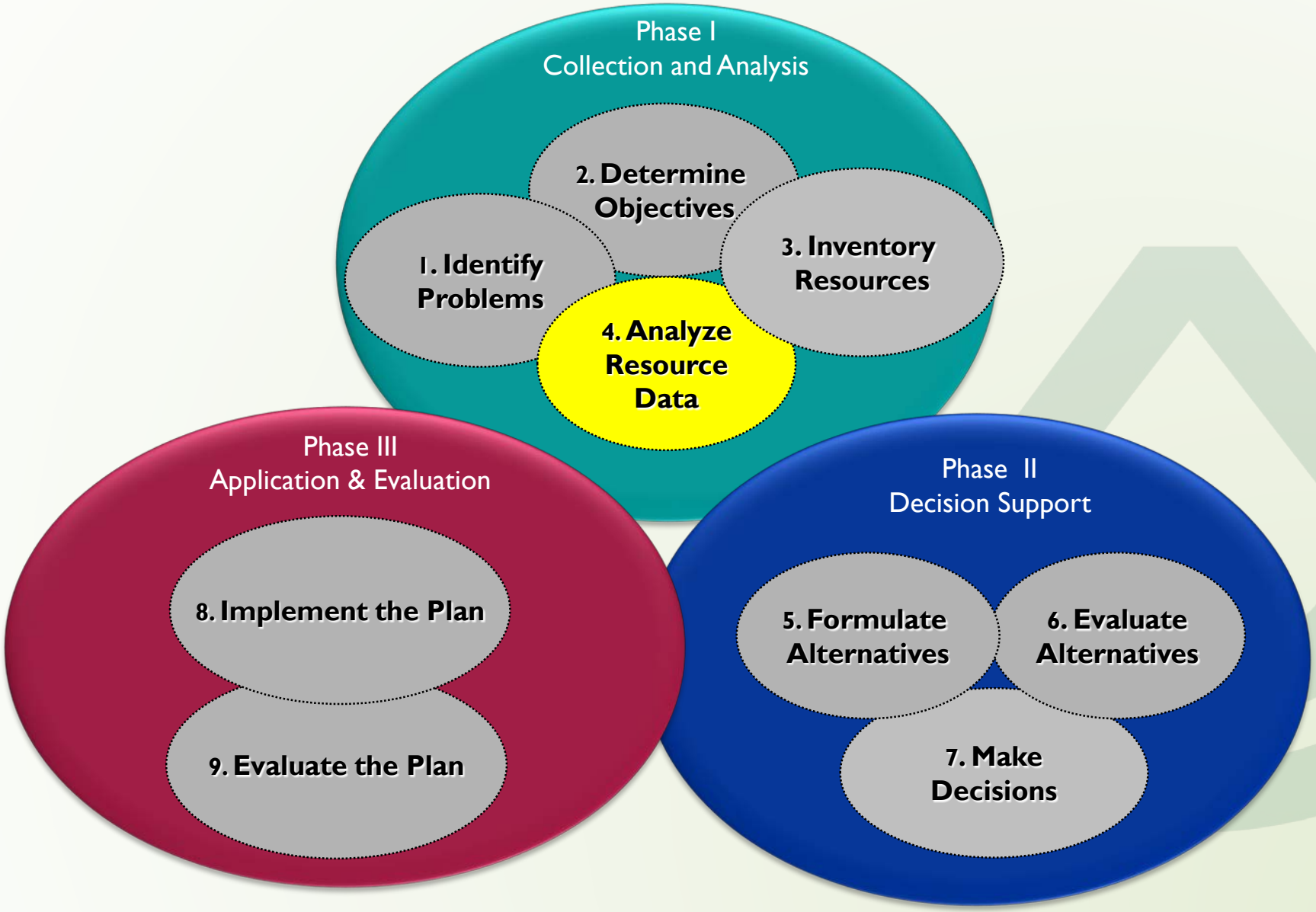
Small Grain Production:
Used as cover crop: ☐Yes ☐No
Seeding date: _____
Planter Type:_____
Used as Forage: ☐Yes ☐No Date Removed: ____

Other Information:
Was Anhydrous injected: ☐Yes ☐No
Other Fertilizer Incorporation (when/how):_____
Manure Incorporation (when/how): _____
Document Grassed Waterways and other existing conservation practices: _____
☐Contour Strips ☐Contour Buffers ☐Contour
Contour: Absolute Row Grade %: _____
Width of strips: _____
Number of strips: _____
Other Conservation Practices:

Corn Production:
Planter Type: _____
Row Spacing: _____
Planter Attachments (coulter, etc.): _____
Other Residue Removal (gleaning, etc.): _____

Alfalfa/Hay Production:
Seeding: ☐Direct Seed ☐With Nurse Crop
Seeding: ☐Straight Alfalfa ☐Grass Mix
Seeding: ☐Spring ☐Fall
If nurse crop: ☐Forage ☐Grain
Alfalfa/Hay Seeding Rates:_____

Other Crop (Details): Crop Name: _____
Seeding Date: _____
Harvest Date: _____
Planter Type: _____
Row Spacing:_____
Residue Removed: ☐Yes ☐No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Objective of Step 4

Objective of Step 4 –

Analyze the data you gathered during the inventory process to determine if a potential resource concern is an actual resource concern

Is this a Resource Concern?

How do we know?

Barnyard Evaluation Rating Tool (BERT) (USDA-ARS Young et al. 4-1982)

ver 10-2014 BERT is not to be used as a design tool for conservation practices.

Landowner: Completed by:
Date: Lot ID:

Existing conditions Modified conditions

Paved Lot area: sq ft
Earth Lot area: sq ft
Total Animal Lot area: 0 sq ft
Is there a design settling basin?
Percent Time on Lot:
Lot Scraped every 7 days or less?

Clear Cells

Animals on Lot: number
Animals Type: (Dairy = 1;Beef=2)
Avg. Animal Weight: lbs
Lot use: #N/A 1= Heavy;2=Med;3= Light)
#N/A Adjusted sq ft / animal

TRIBUTARY AREAS
Tributary area: sq ft sq ft
RCN:
See RCN DATA
Roof area: sq ft

Vegetated Area Immediately Downstream of Lot?
es Runoff From Lot Sheet Flow Across Vegetated Area?
Cover Type:
c-value: #N/A
Length of Existing Vegetated Area= ft.
Width of Existing Vegetated Area= ft.
Slope:

Runof

Distance to Blue Line on USGS Topo Map: ft.
Distance to Lake, Wetland, or Pond: ft.
Are Manure Solids Leaving the Lot?
Is Facility in Good Operating Condition:

Print Results

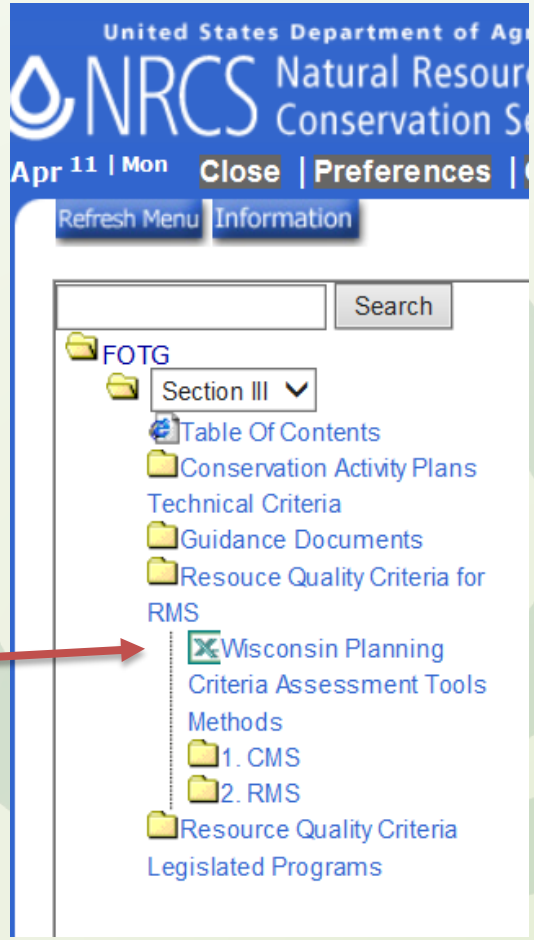
Edge of Lot BERT =	#DIV/0!
End of buffer BERT =	#DIV/0!

No buffer is included in this evaluation

The BERT **rating is a guide** in deciding if a barnyard system is a resource concern.
Site specific conditions are critical when determining if a system is a resource concern or not.

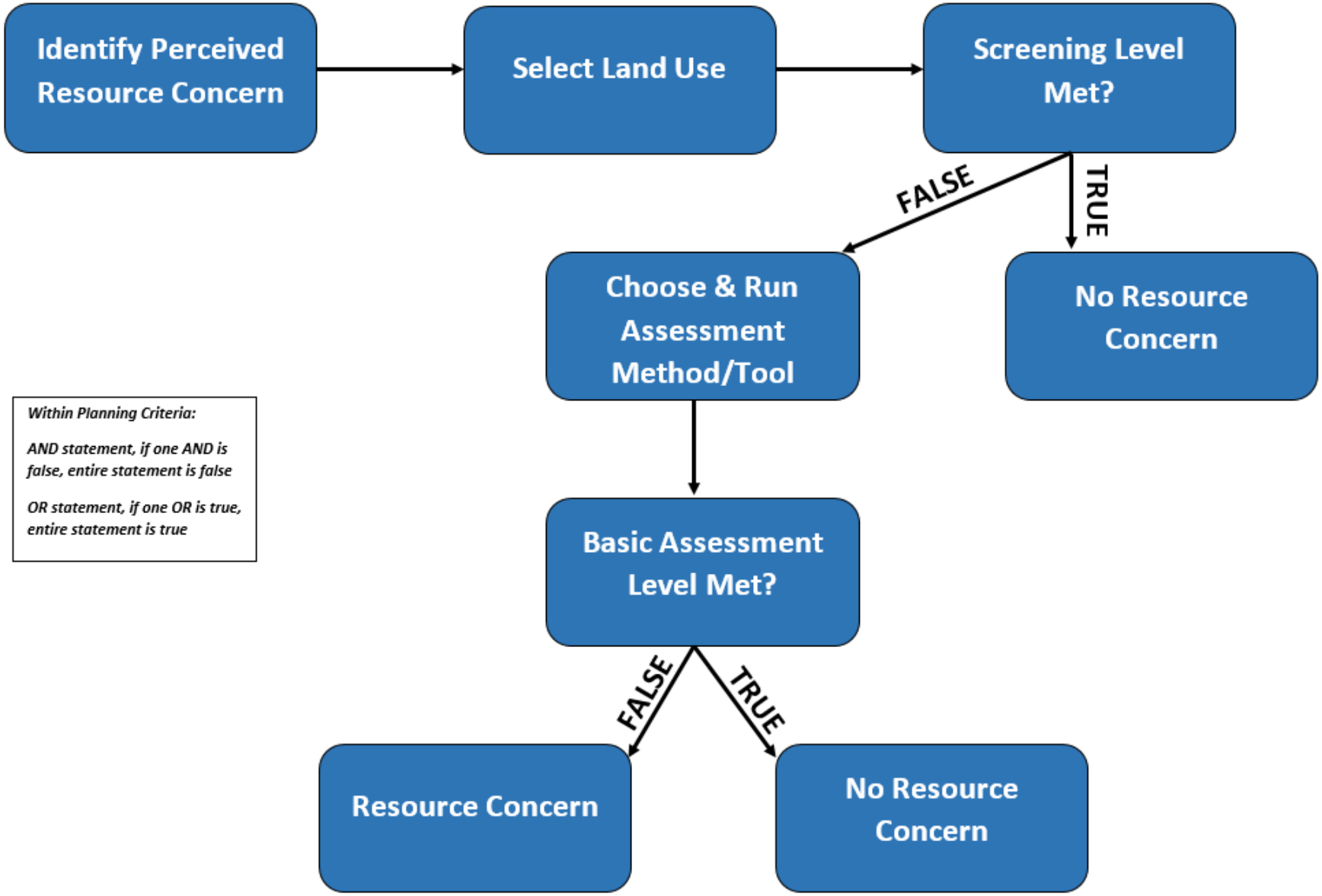
Planning Criteria

- A quantitative or qualitative method to assess resource concerns and determine if additional treatment is needed
- Located in Section III of the FOTG



SOIL					
Resource Concern	**Description of Concern**	**Land Use**	**Screening Level**	**Basic Assessment Level**	**Assessment Methods or Tools**
Different receiving waters (303d listed, ORW, and ERW) or planning units may require a higher assessment level to achieve the desired resource requirements.					
1 - SOIL EROSION - Sheet, rill, & wind erosion	Detachment and transportation of soil particles caused by rainfall runoff/splash, irrigation runoff or wind that degrades soil quality	Crop	Permanent ground cover or residue > 90% and slope < 10%	Water (sheet and rill) erosion rate ≤ T	RUSLE2
				Wind erosion rate ≤ T	WEPS
		Developed Land, Farmsteads, Associated AG Land, Designated Protected Area, Other Rural Land, Pasture	Permanent ground cover or residue > 90% and slope < 10%	Water (sheet and rill) erosion rate ≤ T	RUSLE2
				Wind erosion rate ≤ T	WEPS
		Forest	Soil surface organic residue cover (leaf litter, herbaceous plants) > 80%	Site is stable and without visible signs of erosion	Client input & Planner I&E

Planning Criteria Flowchart



Within Planning Criteria:

AND statement, if one AND is false, entire statement is false

OR statement, if one OR is true, entire statement is true

USDA

Unit

Resource Concern?

Planning Criteria (FOTG Sec. III)

Resource Concern	Description of Concern	Land Use
11 - WATER QUALITY DEGRADATION - Excess nutrients in surface and ground waters	Nutrients - organic and inorganic - are transported to receiving waters through surface runoff and/or leaching into shallow ground waters in quantities that degrade water quality and limit use for intended purposes	Farmsteads

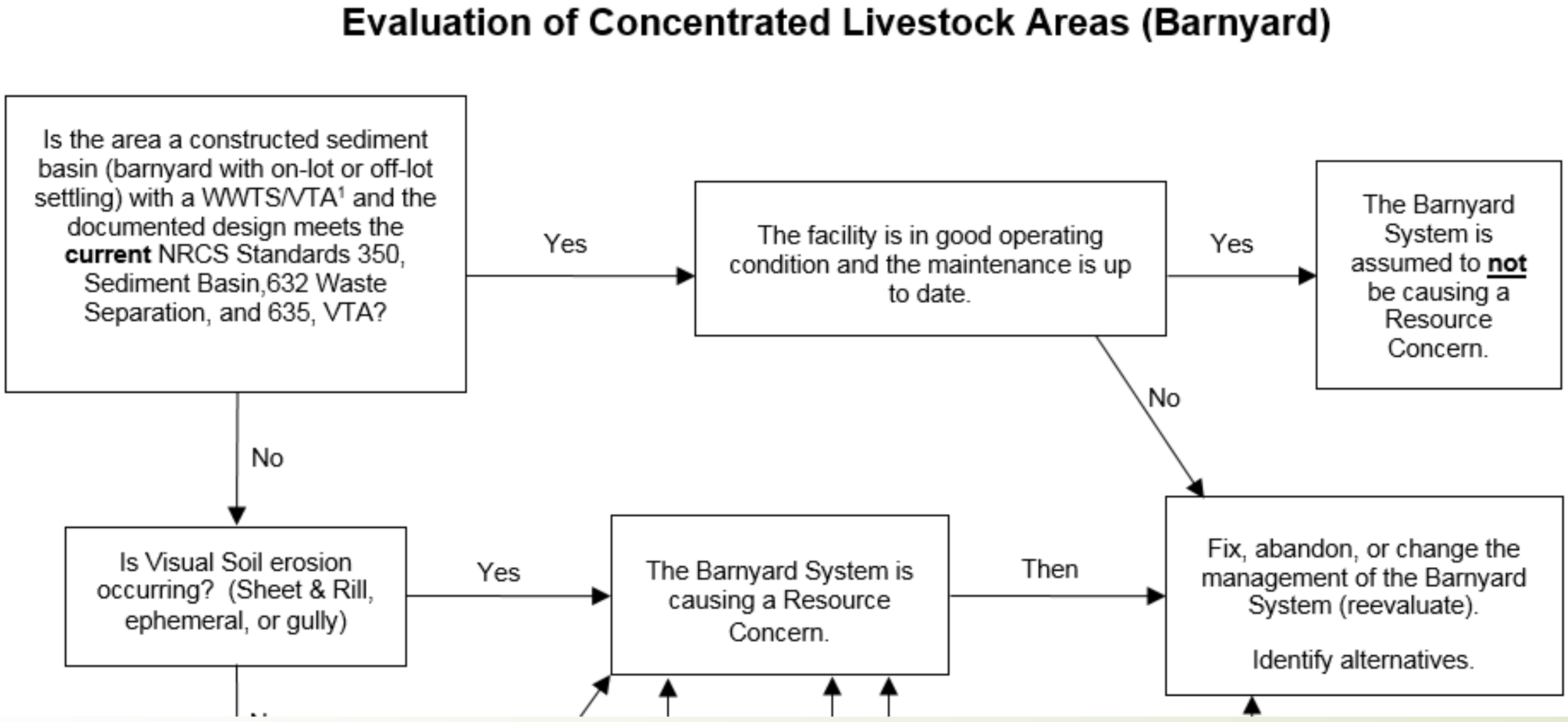
Planning Criteria

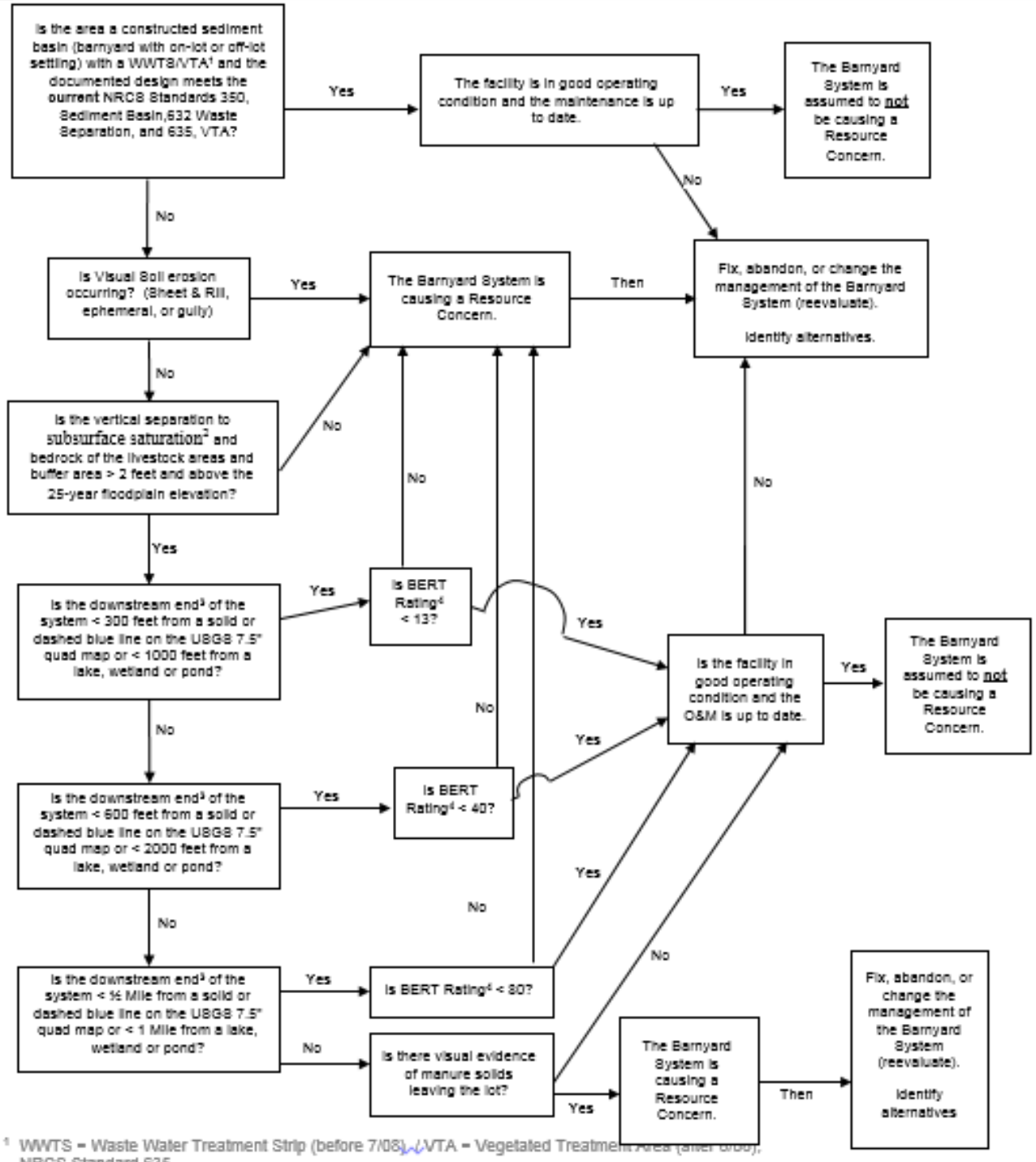
Screening Level

Conservation practices and managements are in place to minimize offsite impacts
AND
Surface and ground waters are protected from contamination due to runoff and leaching from storage sites, spill and other concentrated sources

Basic Assessment Level	Assessment Methods or Tools
Acceptable Ratings from CNMP Engineering Evaluations	CNMP Engineering Evaluations -Feedstock Storage Area Evaluation Rating -Feedstock Storage Bag -Evaluation Rating -Manure Transfer Systems Evaluation flowchart -Barnyard Evaluation Rating Tool (BERT) & Flowchart

Available Tool





[1] WWTS = Waste Water Treatment Strip (before 7/08), VTA = Vegetated Treatment Area (after 7/08).
NRCS Standard 635

United States Department of Agriculture

Resource Concern ?

Planning Criteria

Resource Concern	Description of Concern	Land Use
11 - WATER QUALITY DEGRADATION - Excess nutrients in surface and ground waters	Nutrients - organic and inorganic - are transported to receiving waters through surface runoff and/or leaching into shallow ground waters in quantities that degrade water quality and limit use for intended purposes	Farmsteads

Planning Criteria

Screening Level	Basic Assessment Level	Assessment Methods or Tools
Conservation practices and managements are in place to minimize offsite impacts AND Surface and ground waters are protected from contamination due to runoff and leaching from storage sites, spill and other concentrated sources	Acceptable Ratings from CNMP Engineering Evaluations	CNMP Engineering Evaluations -Feedstock Storage Area Evaluation Rating -Feedstock Storage Bag -Evaluation Rating -Manure Transfer Systems Evaluation flowchart -Barnyard Evaluation Rating Tool (BERT) & Flowchart

AvailableTool ?

Feedstock Storage Area Evaluation Rating

Not to be used for vertical silos and silo bags.

Vertical silos – Look for evidence of silage leachate

Silo bags – new 2014 evaluation rating developed

1. Does the feed storage area have appropriate separation to wells? (See back of sheet.)
   ☐ Yes ☐ No (Does not meet NR-812; Check with DNR) Complete Evaluation

2. Is there evidence of leachate in the feed storage area (brown stain or pools of discolored liquid, concrete surface with cement missing, or burned-out vegetation downstream)?

   No *(0 pts)* Yes *(15 pts)* ..... ___ points

So what do you do?

Farmsteads	Organic or inorganic nutrients are not applied **AND** Field or planning unit is not grazed **AND** There are no confined livestock areas	Conservation practices and managements are in place to minimize offsite impacts **AND** Surface and ground waters are protected from contamination due to runoff and leaching from storage sites, spill and other concentrated sources	Client input & Planner I&E
		Agrichemicals are stored, handled, and managed to prevent runoff, spills, leaks and leaching	
		Water well test do not violate state health standards	

Resource Concern?

Planning Criteria (FOTG Sec. III)

Resource Concern	Description of Concern	Land Use
5 - SOIL QUALITY DEGRADATION – Compaction	Management induced soil compaction resulting in decreased rooting depth that reduces plant growth, animal habitat and soil biological activity	Crop, Forest, Associated Ag Land, Designated Protected Area, Other Rural Land

Planning Criteria

Screening Level	Basic Assessment Level	Assessment Methods or Tools
Soil compaction is not a problem **AND** Activities do not cause soil compaction problems.	Compaction is managed to meet Client's production and management objectives	Client input & Planner I&E
	Grams/Cubic Centimeter - Average grams in weight of cubic centimeter of soil for the field or planning area/unit not increased by 10% above baseline bulk density per texture class. Sand (1.6g/cc), Loam (1.3 g/cc) Silt Loan (1.2 g.cc), Muck (0.9 g/cc)	Bulk density test
	Average penetrometer readings of soil for the field or planning area/unit not increased by 10%	Dial penetrometer

Planning Criteria (FOTG Sec. III)

Resource Concern	Description of Concern	Land Use
6 - SOIL QUALITY DEGRADATION – Organic matter depletion	Soil organic matter is not adequate to provide a suitable medium for plant growth, animal habitat, and soil biological activity	Crop

Planning Criteria

Screening Level	Basic Assessment Level	Assessment Methods or Tools
Permanent ground cover or residue > 80%	OM % ≥ 1% for sands or ≥ 3% for fine textured soils	Soil lab test results of organic matter content
	Soil Conditioning Index SCI > 0	RUSLE2, WEPS
	PCS - Plant Cover Element score ≥ 4 AND PCS - Plant Residue Element score ≥4	PCS - Pasture Condition Score Sheet

Resource Concern?

Planning Criteria (FOTG Sec. III)

Resource Concern	Description of Concern	Land Use
1 - SOIL EROSION - Sheet, rill, & wind erosion	Detachment and transportation of soil particles caused by rainfall runoff/splash, irrigation runoff or wind that degrades soil quality	Crop

Planning Criteria

Screening Level	Basic Assessment Level	Assessment Methods or Tools
Permanent ground cover or residue > 90% and slope < 10%	Water (sheet and rill) erosion rate ≤ T	RUSLE2
	Wind erosion rate ≤ T	WEPS

Let’s give it a try!

Looking North from South end of gully

Looking South from gully bend

Would NT + Covers change the resource concern?

At gully bend

Planning Criteria (FOTG Sec. III)

Resource Concern	Description of Concern	Land Use
2 - SOIL EROSION – Concentrated flow erosion	Untreated classic gullies may enlarge progressively by head cutting and/or lateral widening. Ephemeral gullies occur in the same flow area and are obscured by tillage. This includes concentrated flow erosion caused by runoff from rainfall, snowmelt or irrigation water.	Crop

Planning Criteria

Screening Level

Conservation practices and management are in place to prevent or control ephemeral gullies
OR
vegetated protection exists in channels (grassed waterways) within twice the RUSLE2 planning slope (from the top of the watershed)
AND
classic gullies are not present.

Basic Assessment Level	Assessment Methods or Tools
Vegetated protection exists in channels and grassed waterways, or other control practices exists within twice the RUSLE2 planning slope (from the top of the watershed)	Client input & Planner I&E
Tons/year ≤ 4 or ≤ T (ephimerial gullies)	Field measurements - Direct Volume method [Density * (LxWxD)] * times per year/2000
	Ephemeral and Gully Erosion Worksheet
Capacity for design storms adequate	Grassed Waterway Design Spreadsheet
Classic gully management is adequate to stop the progression of head cutting and widening and offsite impacts are minimized by vegetation and/or structures.	Client input & Planner I&E
Tons/year ≤ 4 (classic gullies)	Field measurements - Direct Volume method [Density * (LxWxD)]/2000/years to form. Ephemeral and Gully Erosion Worksheet

NRCS Ephemeral Gully Erosion Estimator

Farmer / Cooperator Name:	Mock Farm	Evaluated By:	DJ
Tract Number:	2097	Evaluation Date:	17-Jun-16

Field Number	Ephemeral Gully (EG)	Gully Length (Feet)	Gully Average Width (Feet)	Gully Average Depth (Inches)	Volume (FT^3) Eroded Estimate	Soil Texture	Pounds of Soil per FT^3 Estimate	Number of Similar EGs In Field	Soil Loss (Tons per Occurrence) Estimate	Number of Occurrences per Year Estimate	Total EG Soil Loss per Year Estimate
5	1	350.0	1.0	12	350.0	Silt Loam	85	1	14.9	3	44.625
	2										
	3										
						Total Estimated Ephemeral Gully Soil Loss Per Year (Tons):					44.625

Field Number	Ephemeral Gully (EG)	Gully Length (Feet)	Gully Average Width (Feet)	Gully Average Depth (Inches)	Volume (FT^3) Eroded Estimate	Soil Texture	Pounds of Soil per FT^3 Estimate	Number of Similar EGs In Field	Soil Loss (Tons per Occurrence) Estimate	Number of Occurrences per Year Estimate	Total EG Soil Loss per Year Estimate
	1										
	2										
	3										
						Total Estimated Ephemeral Gully Soil Loss Per Year (Tons):					

Field Number	Ephemeral Gully (EG)	Gully Length (Feet)	Gully Average Width (Feet)	Gully Average Depth (Inches)	Volume (FT^3) Eroded Estimate	Soil Texture	Pounds of Soil per FT^3 Estimate	Number of Similar EGs In Field	Soil Loss (Tons per Occurrence) Estimate	Number of Occurrences per Year Estimate	Total EG Soil Loss per Year Estimate
	1										
	2										
	3										
						Total Estimated Ephemeral Gully Soil Loss Per Year (Tons):					

Ephemeral Gully Erosion Calculation Formula:

$$\frac{\text{Ephemeral Gully Length} \times \text{Gully Average Width} \times \text{Gully Average Depth}}{2000} \times \text{Soil Weight (lbs/ft}^3\text{)} \times \text{Number of Occurrences per Year} = \text{Estimated Soil Loss (Tons per Year)}$$

VT NRCS Ephemeral Gully Erosion Estimator (June 2006)

Documentation

CPA-52

Official form that documents the 9-step planning process and makes certain we are complaint with the National Environmental Policy Act

U.S. Department of Agriculture
Natural Resources Conservation Service

NRCS-CPA-52
4/2013

ENVIRONMENTAL EVALUATION WORKSHEET

A. Client Name:

B. Conservation Plan ID # (as applicable):
Program Authority (optional):

C. Identification # (farm, tract, field #, etc. as required):

D. Client's Objective(s) (purpose):

E. Need for Action:

H. Alternatives

No Action	√ if RMS ☐	Alternative 1	√ if RMS ☐	Alternative 2	√ if RMS ☐

Resource Concerns

In Section "F" below, analyze, record, and address concerns identified through the Resources Inventory process.
(See FOTG Section III - Resource Planning Criteria for guidance).

F. Resource Concerns and Existing/ Benchmark Conditions (Analyze and record the existing/benchmark conditions for each identified concern)	I. Effects of Alternatives: No Action — Amount, Status, Description (Document both short and long term impacts)	√ if does NOT meet PC	Alternative 1 — Amount, Status, Description (Document both short and long term impacts)	√ if does NOT meet PC	Alternative 2 — Amount, Status, Description (Document both short and long term impacts)	√ if does NOT meet PC
SOIL: *EROSION*						
		☐ NOT meet PC		☐ NOT meet PC		☐ NOT meet PC
		☐ NOT meet PC		☐ NOT meet PC		☐ NOT meet PC
SOIL: *SOIL QUALITY DEGRADATION*						
		☐ NOT meet PC		☐ NOT meet PC		☐ NOT meet PC
		☐ NOT meet PC		☐ NOT meet PC		☐ NOT meet PC
WATER: *EXCESS / INSUFFICIENT WATER*						
		☐ NOT meet PC		☐ NOT meet PC		☐ NOT meet PC
WATER: *WATER QUALITY DEGRADATION*						
		☐ NOT meet PC		☐ NOT meet PC		☐ NOT meet PC
		☐ NOT meet PC		☐ NOT meet PC		☐ NOT meet PC

1. Step-1 – Problem Identification and Section-E – Need for Action – Record Eligible Resource Concerns (only to the level of the 9-broad resource concerns category), and Landuse. For Example, Soil Erosion – Cropland, Plant Degradation – Pasture, Water Quality – Cropland, etc.

U.S. Department of Agriculture Natural Resources Conservation Service NRCS-CPA-52 4/2013 **ENVIRONMENTAL EVALUATION WORKSHEET**	**A. Client Name:** Ima Farmer **B. Conservation Plan ID #** (as applicable): **Program Authority** (optional): EQIP
D. Client's Objective(s) (purpose): Reduce field maintenance, improve yield and profitability	**C. Identification #** (farm, tract, field #, etc. as required): Tract 1099: Field 1, 3

E. Need for Action:	**H. Alternatives**		
	No Action √ if RMS ☐	***Alternative 1*** √ if RMS ☐	***Alternative 2*** √ if RMS ☐
Soil Erosion - Cropland, Soil Quality - Cropland, Water Quality - Cropland	Continued continuous corn/soybean rotation	328, 329, 340, 590, 410	

2. Step-2 – Determine Objectives and Section-D – Objectives – Record very brief summations of the client's objectives. Some examples might include, but not be limited to reduce soil erosion, improve water quality, increase wildlife habitat, improve forest management, etc. One might also use another example like the one below:

U.S. Department of Agriculture Natural Resources Conservation Service ENVIRONMENTAL EVALUATION WORKSHEET	NRCS-CPA-52 4/2013	A. Client Name: Ima Farmer B. Conservation Plan ID # (as applicable): Program Authority (optional): EQIP
D. Client's Objective(s) (purpose): Reduce field maintenance, improve yield and profitability		C. Identification # (farm, tract, field #, etc. as required): Tract 1099: Field 1, 3

E. Need for Action:	H. Alternatives		
	No Action √ if RMS ☐	*Alternative 1* √ if RMS ☐	*Alternative 2* √ if RMS ☐
Soil Erosion - Cropland, Soil Quality - Cropland, Water Quality - Cropland	Continued continuous corn/soybean rotation	328, 329, 340, 590, 410	

3. Step-3 Inventory Resources and Step-4 Analyze Resource Data and Section-F – Resource Concerns and Existing/Benchmark Conditions – Record Benchmark Condition developed with the appropriate Inventory Method/Assessment Tool as found in Wisconsin eFOTG – Section III.

Resource Concerns

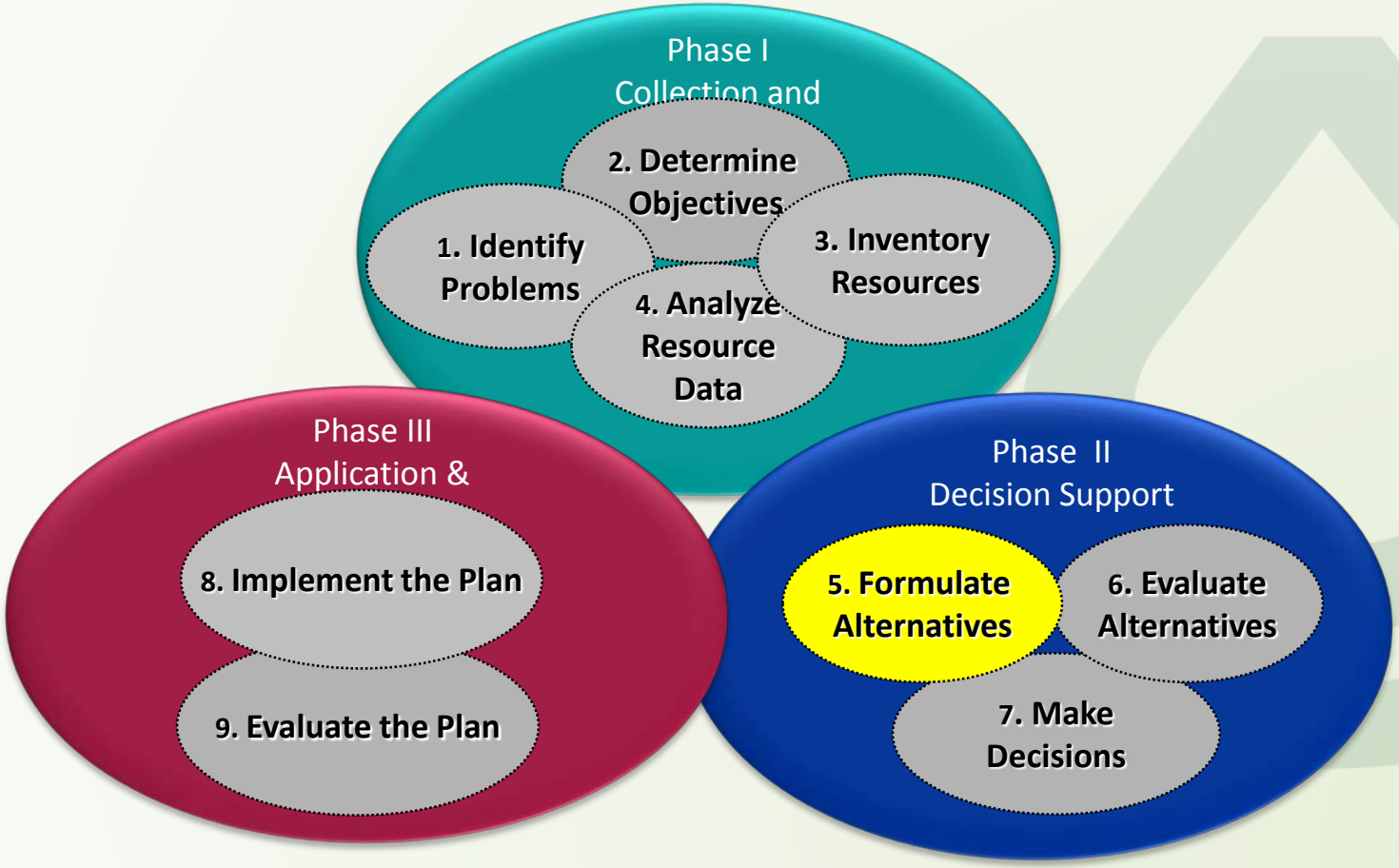
In Section "F" below, analyze, record, and address concerns identified through the Resources Inventory process. (See FOTG Section III - Resource Planning Criteria for guidance).

F. Resource Concerns and Existing/ Benchmark Conditions (Analyze and record the existing/benchmark conditions for each identified concern)	I. Effects of Alternatives					
	No Action		*Alternative 1*		*Alternative 2*	
	Amount, Status, Description *(Document both short and long term impacts)*	√ if does NOT meet PC	Amount, Status, Description *(Document both short and long term impacts)*	√ if does NOT meet PC	Amount, Status, Description *(Document both short and long term impacts)*	√ if does NOT meet PC
SOIL: *EROSION*						
Sheet, Rill & Wind Erosion		☑		☐		☐
Field 1&3 - 9 TAY (RUSLE2)	9+ TAY	NOT meet PC	4 TAY (RUSLE2)	NOT meet PC		NOT meet PC
Concentrated flow						

4. <u>Step-3 Inventory Resources and Step-4 Analyze Resource Data and Section-G – Special Environmental Concerns – Document Existing/Benchmark Conditions</u> – NRCS must consider Special Environmental Concerns during the planning process. Steps 3 and 4 represent the planner's opportunity to determine if some of these Special Environmental Concerns are present in the planning area.
The Special Environmental Concerns include:

county						
•Clean Water Act / Waters of the U.S. *Guide Sheet* *Fact Sheet* Johnson creek is on 303d list. No actions resulting in discharge	May Effect Current farming practices have the potential for negative impact Johnson Creek.	☐	No Effect Reduction in erosion and sedimentation benefits Johnson Creek.	☐		☐
•Coastal Zone Management *Guide Sheet* *Fact Sheet*	No Effect	☐	No Effect	☐		☐
•Wetlands *Guide Sheet* *Fact Sheet* 0.5 ac wetland delineated by ARSS	May Effect Decreased function, condition degraded	☐	No Effect Maintain or improve function, condition-functional	☐		☐
•Wild and Scenic Rivers *Guide Sheet* *Fact Sheet* Project Areas not listed.	No Effect	☐	No Effect	☐		☐

Step 5 – Formulate Alternatives



Objective of Step 5 –

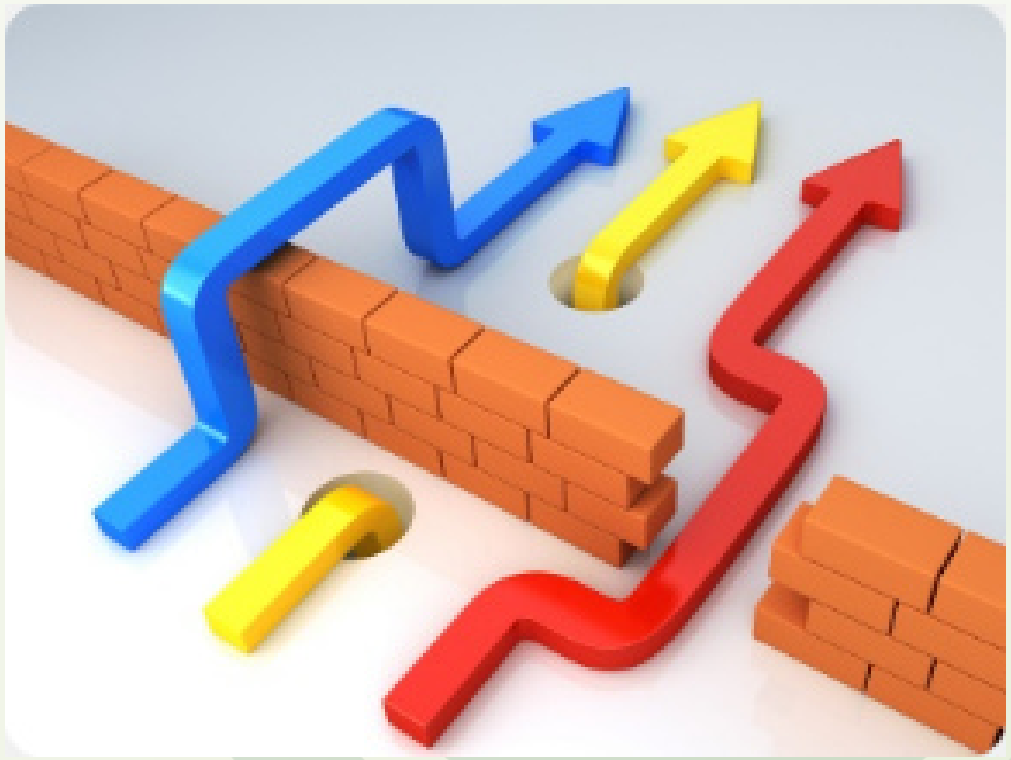
-Achieve the objective of the client

-Achieve the objective of NRCS

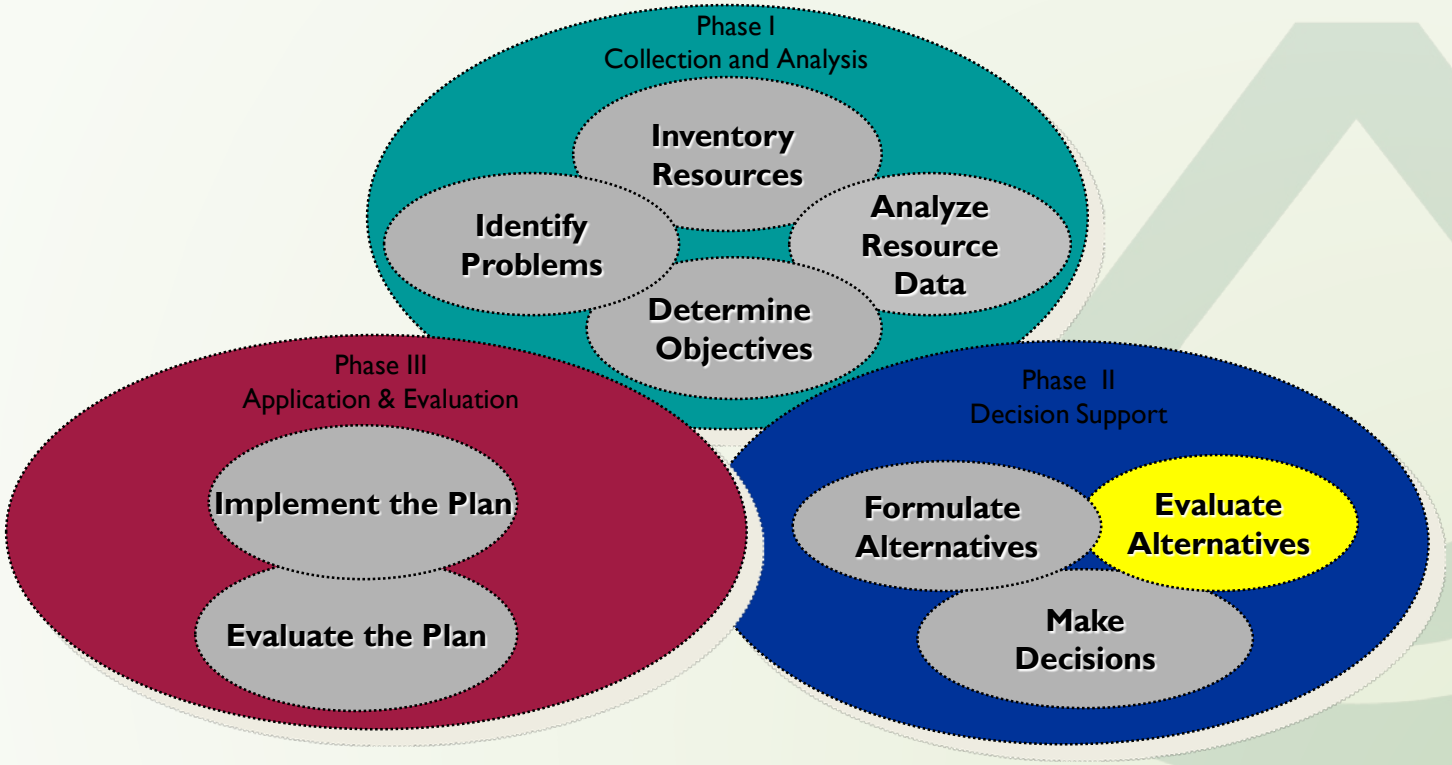
-Treat the resource concerns present in the planning unit

-Take advantage of opportunities

-Prevent or lessen the possibility of additional problems occurring



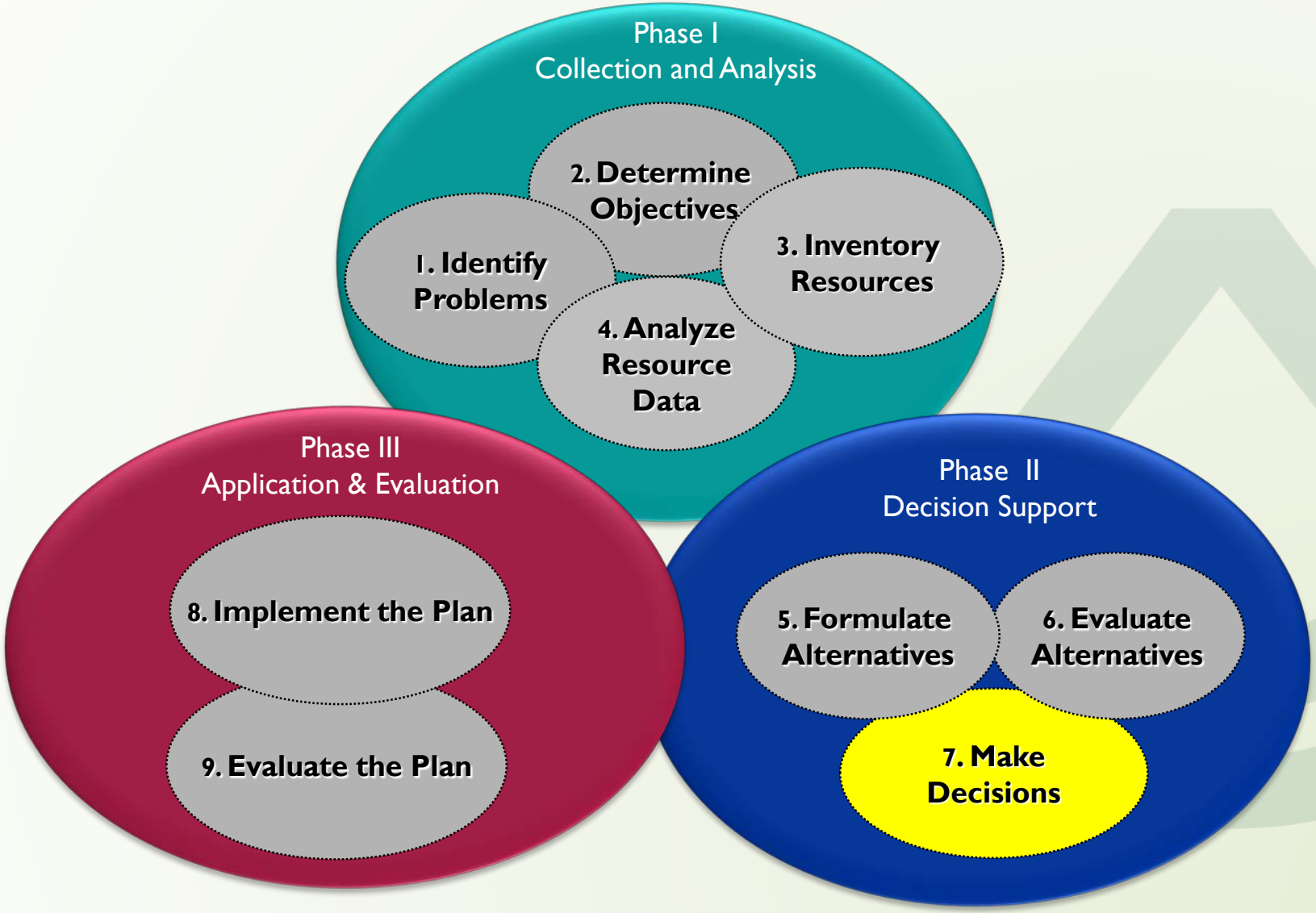
Step 6 – Evaluate Alternatives



Objective of Step 6 -

- Ensure alternatives;
  - Meet the client's and NRCS's objectives and goals and opportunities.
  - Meet planning criteria.
  - Will not have a negative effect on the human environment

- Provide client information needed to select desired alternative. *It might not be cost sharing…..


Phase I
Collection and Analysis
1. Identify Problems
2. Determine Objectives
3. Inventory Resources
4. Analyze Resource Data
Phase II
Decision Support
5. Formulate Alternatives
6. Evaluate Alternatives
7. Make Decisions
Phase III
Application & Evaluation
8. Implement the Plan
9. Evaluate the Plan

Decision Making Factors

- Results of steps 5 & 6
  - Advantages & disadvantages of each alternative
  - Beneficial and adverse effects of each alternative
- Potential financial assistance options

5. Step 5 – Develop Alternatives – No Action and Section-H – Alternatives – No Action – Provide very brief description of existing operation. For example, continued continuous corn/soybean rotation.

U.S. Department of Agriculture Natural Resources Conservation Service NRCS-CPA-52 4/2013 **ENVIRONMENTAL EVALUATION WORKSHEET**	**A. Client Name:** Ima Farmer **B. Conservation Plan ID #** (as applicable): **Program Authority** (optional): EQIP
D. Client's Objective(s) (purpose): Reduce field maintenance, improve yield and profitability	**C. Identification #** (farm, tract, field #, etc. as required): Tract 1099: Field 1, 3

E. Need for Action:	**H. Alternatives**		
	No Action √ if RMS ☐	***Alternative 1*** √ if RMS ☐	***Alternative 2*** √ if RMS ☐
Soil Erosion - Cropland, Soil Quality - Cropland, Water Quality - Cropland	Continued continuous corn/soybean rotation	328, 329, 340, 590, 410	

6. Step 5 – Develop Alternatives – No Action and Section-H – Alternatives – Alternative-1 – Record the planned practice code(s) only. A list of NRCS practice codes can be found in the Wisconsin eFOTG – Section IV – Table of Contents. An example record might be 328, 329, 340, 410, (repeat for additional alternatives)

U.S. Department of Agriculture Natural Resources Conservation Service **ENVIRONMENTAL EVALUATION WORKSHEET**	NRCS-CPA-52 4/2013	**A. Client Name:** Ima Farmer **B. Conservation Plan ID #** (as applicable): **Program Authority** (optional): EQIP
D. Client's Objective(s) (purpose): Reduce field maintenance, improve yield and profitability		**C. Identification #** (farm, tract, field #, etc. as required): Tract 1099: Field 1, 3

E. Need for Action:	**H. Alternatives**		
	No Action √ if RMS ☐	***Alternative 1*** √ if RMS ☐	***Alternative 2*** √ if RMS ☐
Soil Erosion - Cropland, Soil Quality - Cropland, Water Quality - Cropland	Continued continuous corn/soybean rotation	328, 329, 340, 590, 410	

7. Step 6 – Evaluate Alternatives and Section-I – Effects of Alternatives – No Action – Restate Benchmark Condition, or show deterioration of resource concern as appropriate. If the Benchmark Condition and No Action Alternative will not meet Planning Criteria (PC) as outlined in Wisconsin's eFOTG - Section III, make sure to select the NOT meet PC box.

Resource Concerns						
In Section "F" below, analyze, record, and address concerns identified through the Resources Inventory process. (See FOTG Section III - Resource Planning Criteria for guidance).						
F. Resource Concerns and Existing/ Benchmark Conditions (Analyze and record the existing/benchmark conditions for each identified concern)	I. Effects of Alternatives					
	No Action		*Alternative 1*		*Alternative 2*	
	Amount, Status, Description *(Document both short and long term impacts)*	√ if does NOT meet PC	Amount, Status, Description *(Document both short and long term impacts)*	√ if does NOT meet PC	Amount, Status, Description *(Document both short and long term impacts)*	√ if does NOT meet PC
SOIL: *EROSION*						
Sheet, Rill & Wind Erosion						
Field 1&3 - 9 TAY (RUSLE2)	9+ TAY	☑ NOT meet PC	4 TAY (RUSLE2)	☐ NOT meet PC		☐ NOT meet PC

8. Step 6 – Evaluate Alternatives and Section-J – Special Environmental Concerns – No Action – Record potential impacts to Special Environmental Concerns in a brief statement. For example, potential negative impact to Johnson Creek, Reduced Habitat for Golden Winged Warbler, No Impact on Floodplain, Coral Reefs Not Present, etc. Be sure statements are consistent with inventory methods used, and benchmark conditions established, and can be defensible (i.e., supported by information in the case file or sources cited on the CPA-52).

Special Environmental Concerns: Environmental Laws, Executive Orders, policies, etc.

n Section "G" complete and attach Environmental Procedures Guide Sheets for documentation as applicable. Items with a "•" may require a federal permit or consultation/coordination between the lead agency and another government agency. In these cases, effects may need to be determined in consultation with another agency. Planning and practice implementation may proceed for practices not involved in consultation.

G. Special Environmental Concerns (Document existing/ benchmark conditions)	J. Impacts to Special Environmental Concerns					
	No Action		*Alternative 1*		*Alternative 2*	
	Document all impacts (Attach Guide Sheets as applicable)	√ if needs further action	Document all impacts (Attach Guide Sheets as applicable)	√ if needs further action	Document all impacts (Attach Guide Sheets as applicable)	√ if needs further action
•Clean Air Act *Guide Sheet* *FS1* *FS-2* No non attainment areas in county	No Effect	☐	No Effect	☐		☐
•Clean Water Act / Waters of the U.S. *Guide Sheet* *Fact Sheet* Johnson creek is on 303d list. No actions resulting in discharge	May Effect Current farming practices have the potential for negative impact Johnson Creek.	☐	No Effect Reduction in erosion and sedimentation benefits Johnson Creek.	☐		☐

9. Step 6 – Evaluate Alternatives – Alternative-1 and Section-I – Effects of Alternatives – Alternative-1- Record quantitative or qualitative results of planned practices using the outcomes from proper assessment methods (i.e. RUSLE2, BERT, PCS, SVAP, BEPI, WHSI, etc). NOTE: This is a separate calculation from Benchmark Conditions to document planned practices will meet Planning Criteria. Using our earlier example of Soil Erosion – Sheet, Rill, & Wind; the estimated erosion rate with installed conservation practices will need to be recorded. Again, the documentation to support the estimated effect of conservation practices should accompany the CPA-52.

Resource Concerns						
In Section "F" below, analyze, record, and address concerns identified through the Resources Inventory process. (See FOTG Section III - Resource Planning Criteria for guidance).						
F. Resource Concerns and Existing/ Benchmark Conditions (Analyze and record the existing/benchmark conditions for each identified concern)	I. Effects of Alternatives					
	No Action		*Alternative 1*		*Alternative 2*	
	Amount, Status, Description *(Document both short and long term impacts)*	√ if does NOT meet PC	Amount, Status, Description *(Document both short and long term impacts)*	√ if does NOT meet PC	Amount, Status, Description *(Document both short and long term impacts)*	√ if does NOT meet PC
SOIL: *EROSION*						
Sheet, Rill & Wind Erosion						
Field 1&3 - 9 TAY (RUSLE2)	9+ TAY	☑ NOT meet PC	4 TAY (RUSLE2)	☐ NOT meet PC		☐ NOT meet PC

K. Other Agencies and Broad Public Concerns	*No Action*	*Alternative 1*	*Alternative 2*
Easements, Permissions, Public Review, or Permits Required and Agencies Consulted.		Informal consultation w/ USFWS- for I-Bat. Concurrence for NLAA attached.	
Cumulative Effects Narrative (Describe the cumulative impacts considered, including past, present and known future actions regardless of who performed the actions)	Continued contribution to water quality degradation (nutrients and sediment, and turbidity) rock creek, downstream of planning area	Combined with other conservation actions in the watershed, water quality is expected to improve	
L. Mitigation (Record actions to avoid, minimize, and compensate)		See attached floodplain guide sheet	

alternative of the client by checking the appropriate box

M Preferred Alternative	Y preferred alternative	☐	☑	☐
	Supporting reason		Addresses all resource concerns identified and is economically feasible for the client	

O. Determination of Significance or Extraordinary Circumstances

Intensity: Refers to the severity of impact. Impacts may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

If you answer ANY of the below questions "yes" then contact the State Environmental Liaison as there may be extraordinary circumstances and significance issues to consider and a site specific NEPA analysis may be required.

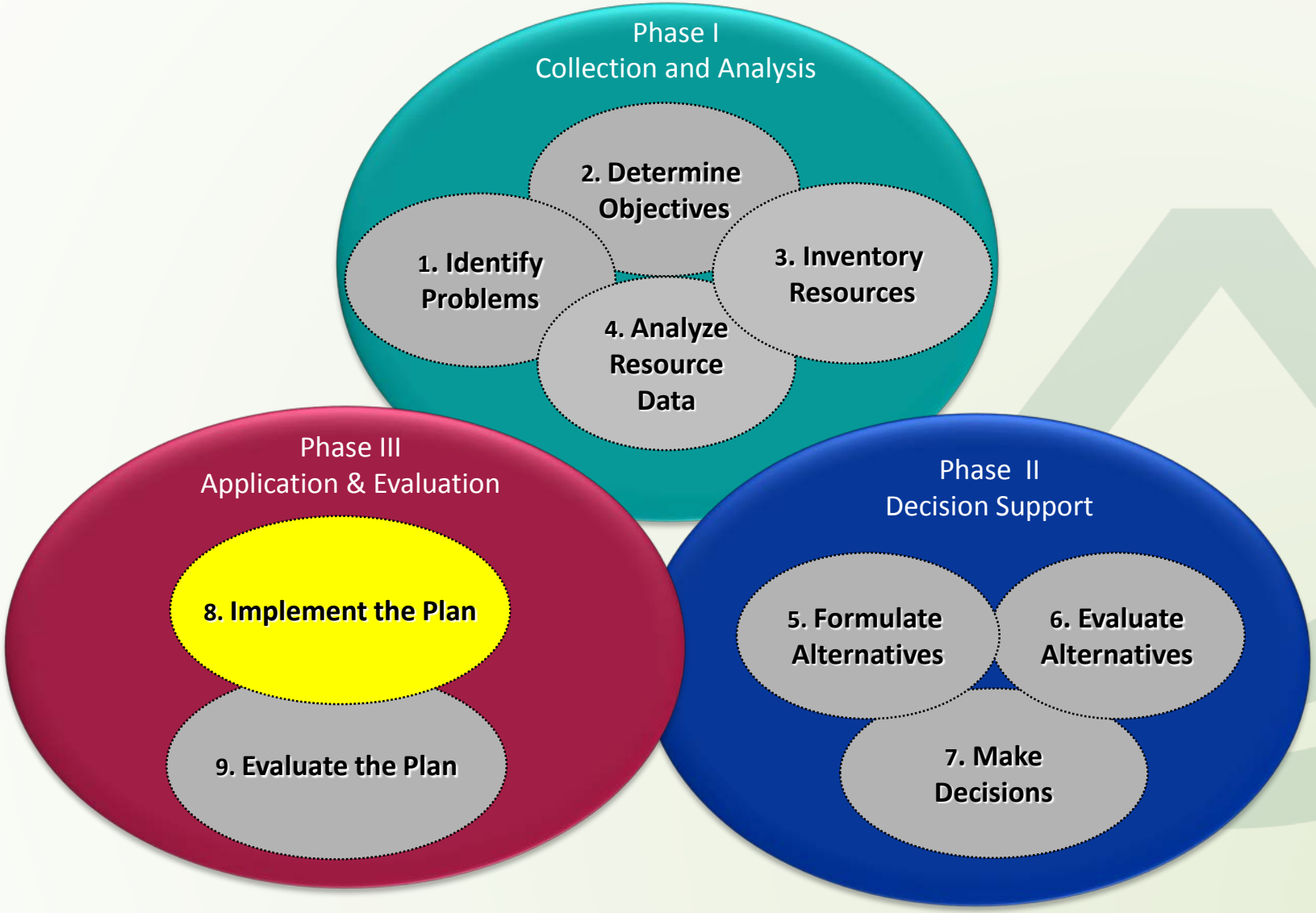
Yes	No	
☐	☑	• Is the preferred alternative expected to cause significant effects on public health or safety?
☐	☑	• Is the preferred alternative expected to significantly affect unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?
☐	☑	• Are the effects of the preferred alternative on the quality of the human environment likely to be highly controversial?
☐	☑	• Does the preferred alternative have highly uncertain effects or involve unique or unknown risks on the human environment?
☐	☑	• Does the preferred alternative establish a precedent for future actions with significant impacts or represent a decision in principle about a future consideration?
☐	☑	• Is the preferred alternative known or reasonably expected to have potentially significant environment impacts to the quality of the human environment either individually or cumulatively over time?
☐	☑	• Will the preferred alternative likely have a significant adverse effect on ANY of the special environmental concerns? Use the Evaluation Procedure Guide Sheets to assist in this determination. This includes, but is not limited to, concerns such as cultural or historical resources, endangered and threatened species, environmental justice, wetlands, floodplains, coastal zones, coral reefs, essential fish habitat, wild and scenic rivers, clean air, riparian areas, natural areas, and invasive species.
☐	☑	• Will the preferred alternative threaten a violation of Federal, State, or local law or requirements for the protection of the environment?

P. To the best of my knowledge, the data shown on this form is accurate and complete:

In the case where a non-NRCS person (e.g. a TSP) assists with planning they are to sign the first signature block and then NRCS is to sign the second block to verify the information's accuracy.

Signature (TSP if applicable)	Title	Date

Signature (NRCS)	Title	Date
Conservation Planner	Soil Conservationist	5/14/2016


Phase I
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<u>Objective of Step 8-</u>
Provide technical assistance & possibly financial assistance for installing conservation practices and management systems

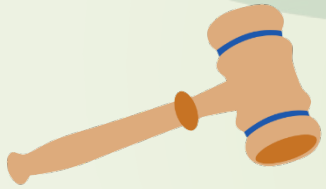
Practice Standards

Criteria

- Establishes design requirements for the practice
- <u>Types of Criteria</u>
  - General Criteria
    - Applicable to all purposes of the practice
  - Additional Criteria
    - May or may not be needed based on the purpose(s) of the practice

Considerations

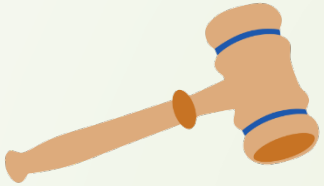
- Optional information for the designer
- Often provides enhancements to conservation benefits
- Does not affect the function of the practice



Practice Standards

Plans and Specifications

- Identifies minimum documentation requirements
- May include:
  - Drawings
  - Job sheets
  - Maps
  - Dates and times of operations
  - Site preparation
  - Planting methods



Operation and Maintenance

- Operation = normal management actions
  - Mowing
  - Adjusting equipment
  - Applying herbicides to control weeds, etc.
- Maintenance = corrective actions needed
  - Fixing storm damage
  - Replacing components, etc.

Technical Notes

- WI Tech Notes currently divided in 4 areas:
  - Agronomy
  - Biology
  - Conservation Planning
  - Forestry

- Used to transmit technical and procedural information

- Provides *supporting* information for standards.

- Cannot establish or change standard requirements

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Wisconsin Agronomy Technical Note 5

Establishing and Maintaining Native Grasses, Forbs and Legumes

INTRODUCTION

This technical note may be used to guide prairie restoration seedings for the purposes of Wisconsin

Prairie restoration is the art and science of reconstructing a diverse native plant community. Constructing an exact copy of the tall grass prairie plant community is not very likely. However, the

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Wisconsin Forestry Technical Note 4

Tree and Shrub Species for Windbreaks

INTRODUCTION

This technical note is intended to be used as a guide for selecting tree and shrub species when planning critical density windbreaks. Refer to specific standards in Section IV of the Wisconsin Field Office Technical Guide (FOTG) for practice purposes and requirements.

develop specific recommendations for a particular site, see Wisconsin Forestry Technical Note 1, Native Tree and Shrub Planting Recommendations for Wisconsin (species in Technical Note 1 are arranged by MLRA and drainage classification), or contact the local Wisconsin Department of Natural Resources Forester or the NRCS State Forester.

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TECHNICAL NOTE

U.S. Department of Agriculture — Natural Resources Conservation Service

TN-Conservation Planning-WI-1 — February 2016

NUTRIENT MANAGEMENT

INTRODUCTION

This Technical Note has been developed in order to provide guidance for nutrient management planning in addition to NRCS Field Office Technical Guide (FOTG) Standard 590. A Comprehensive Nutrient Management Plan (CNMP) is different from a 590 plan and additional documentation is required. More information on CNMPs can be found in the NRCS National Planning Procedures Handbook, Subpart F, Part 600.75 and this fact sheet: http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_019284.pdf.

NRCS, Field Office Technical Guide (FOTG), Section IV, Conservation Practice Technical Standard 590, Nutrient Management, provides specific criteria for nutrient management planners (see section IV). It identifies the necessary components of a nutrient management plan (see section VI), and lists operation and maintenance requirements of the practice (see section VII). Federal, state, and local laws may provide additional requirements and guidance. The Wisconsin Conservation Planning Technical Note WI-1 is the companion document to NRCS FOTG Standard 590 and provides additional guidance and references for plan development.

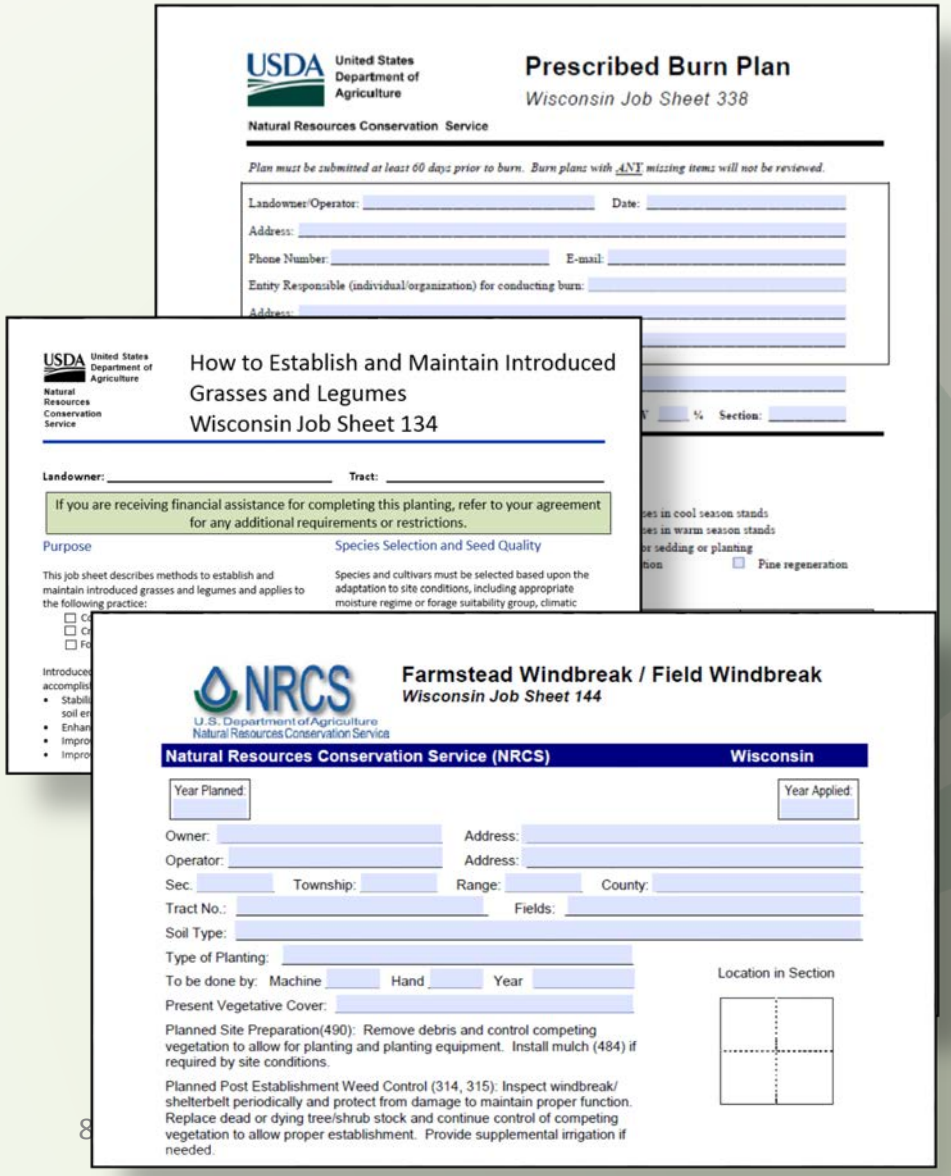
This technical note is updated periodically. To find the most current information for developing nutrient management plans, use Snap Plus nutrient management software from developed by the UW Madison, Soil Science Department and available free of charge. (http://www.snapplus.wisc.edu/) This nutrient management planning tool will allow nutrient management planners to use the most current application rate guidelines found in UWEX Publication A2809 and the most current manure book values for estimating manure production and nutrient availability. Soil restriction map units are listed in Appendix 1 of this technical note and will be changing As county soil surveys are updated. Soil restriction map units are continuously updated so this Tech Note may not be current. The most recent soil restriction units are available in SnapPlus.

This technical note provides detailed guidance on the following:

Part I: Minimum Requirements for a NRCS 590 Nutrient Management Plan
Part II: Minimum Requirements for a Winter Spreading Plan
Part III Enhanced Nutrient Management Planning
Part IV: Determining Manure Nutrient Credits

Job Sheets

- Provides plans/specifications to client
  - Primarily for “resource” practices
- Client as the target audience
- Balance between too much and not enough information
  - Who, what, when, where, why, and how
- O&M requirements



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Prescribed Burn Plan
Wisconsin Job Sheet 338

Plan must be submitted at least 60 days prior to burn. Burn plans with ANY missing items will not be reviewed.

Landowner/Operator: _____ Date: _____
Address: _____
Phone Number: _____ E-mail: _____
Entity Responsible (individual/organization) for conducting burn: _____
Address: _____

Section: _____

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Natural Resources Conservation Service

How to Establish and Maintain Introduced Grasses and Legumes
Wisconsin Job Sheet 134

Landowner: _____ Tract: _____

If you are receiving financial assistance for completing this planting, refer to your agreement for any additional requirements or restrictions.

Purpose

This job sheet describes methods to establish and maintain introduced grasses and legumes and applies to the following practice:

Species Selection and Seed Quality

Species and cultivars must be selected based upon the adaptation to site conditions, including appropriate moisture regime or forage suitability group, climatic

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Farmstead Windbreak / Field Windbreak
Wisconsin Job Sheet 144

Natural Resources Conservation Service (NRCS) Wisconsin

Year Planned: Year Applied:

Owner: _____ Address: _____
Operator: _____ Address: _____
Sec. _____ Township: _____ Range: _____ County: _____
Tract No.: _____ Fields: _____
Soil Type: _____
Type of Planting: _____
To be done by: Machine _____ Hand _____ Year _____
Present Vegetative Cover: _____

Planned Site Preparation(490): Remove debris and control competing vegetation to allow for planting and planting equipment. Install mulch (484) if required by site conditions.

Planned Post Establishment Weed Control (314, 315): Inspect windbreak/ shelterbelt periodically and protect from damage to maintain proper function. Replace dead or dying tree/shrub stock and continue control of competing vegetation to allow proper establishment. Provide supplemental irrigation if needed.

Location in Section

FOTG Section IV – Practice Standards and Specifications

- Conservation practice standards
- Statements of work
- Construction specifications
- Quality assurance plan templates

Reference: WI FOTG Section IV

- Grassed Waterway (412)
  - 412 - Operation & Maintenance Plan
  - 412 - Practice Standard
  - 412 - Quality Assurance Plan
  - 412 - Statement of Work

STATEMENT OF WORK

USDA, Natural Resources Conservation Service

Wisconsin

GRASSED WATERWAY (412)

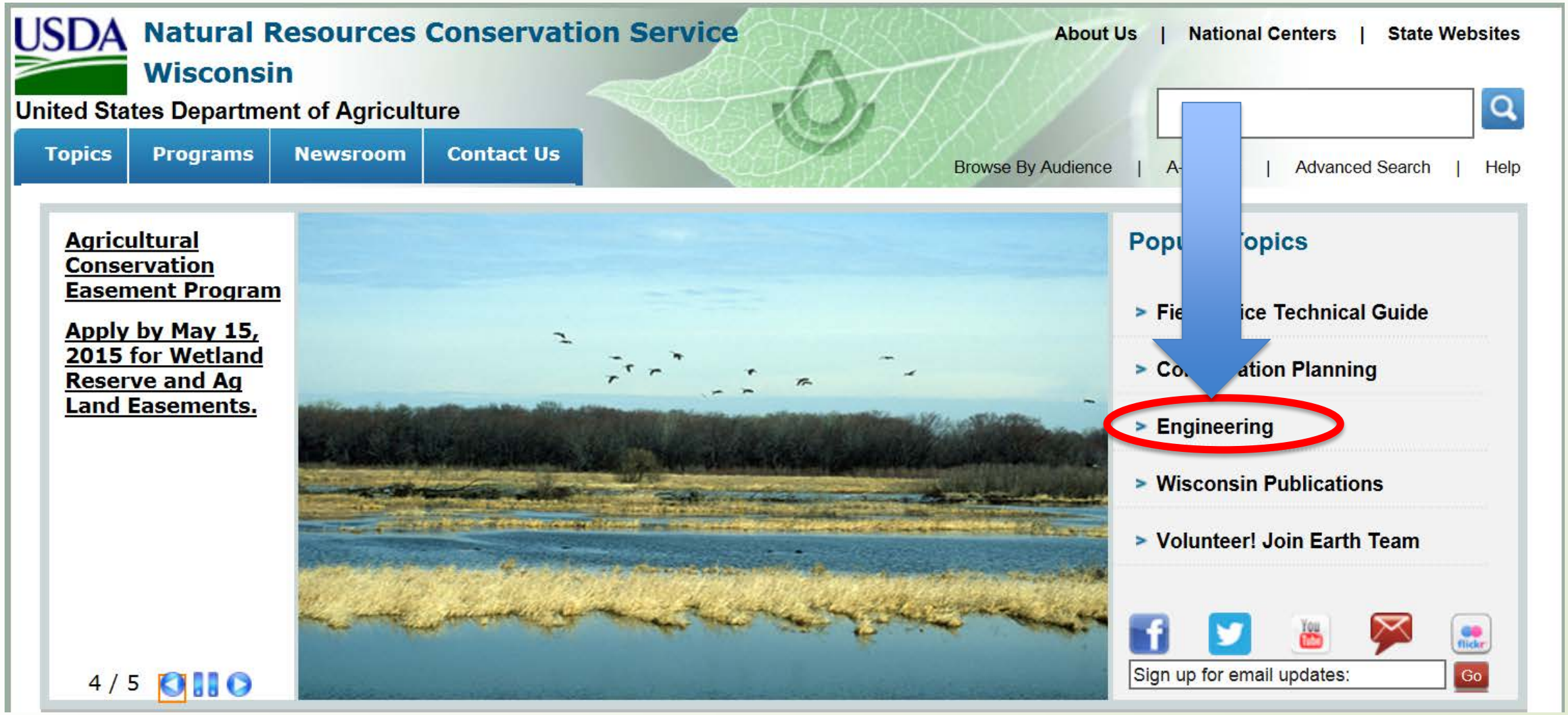
Grassed Waterway Statement of Work

DESIGN (911)

Deliverables:

1. Design Survey – The following information should be obtained and recorded in the field notes:
   a. Profile and cross-sections along centerline
   b. Topography of outlet (if required for a structure)
   c. Site soils data
2. Design Data – The following information should be recorded in the design notes:
   a. Hydrology of the drainage area
   b. Analysis of soil data
   c. Hydraulic computations - consider need for methods for discharging low prolonged flows
   d. Outlet design (structural - vegetated etc.)
   e. Vegetation requirements
   f. Seed bed preparations

Engineering Homepage



Engineering Homepage

Standard Drawings, CAD Help Sheets, Spreadsheets, and Design Resources

Many engineering drawings, plans, and spreadsheets are available for free download and use. Manuals, handbooks, and other technical resources are available along with Wisconsin Supplements.

ENGINEERING TOOLS

- Spreadsheets
- Jobsheets
- Hydrology, Hydraulics, Climate and Wetland Resources
- Archived NRCS Engineering Standards (Ag Waste Related)

WISCONSIN CAD MATERIALS

Standard Detail Drawings

Templates and CUI Files

- WI NRCS Civil 3D 2014 Template (04/10/15)
- WI NRCS Civil 3D 2012 Template (8/11/14)
- WI Civil 3D 2014 CUI File (CUIX)
- WI Civil 3D 2012 CUI File (CUIX)
- WI NRCS Civil 3D 2010 Template (2/24/12)
- WI Civil 3D 2010 CUI File (CUIX)

CAD Help Sheets

- Civil 3D 2014 Help Sheets
- Civil 3D 2010 Help Sheets
- Civil 3D 2008 Help Sheets
- Surveying/Data Collector Help Sheets
- Land Desktop CAD Help Sheets

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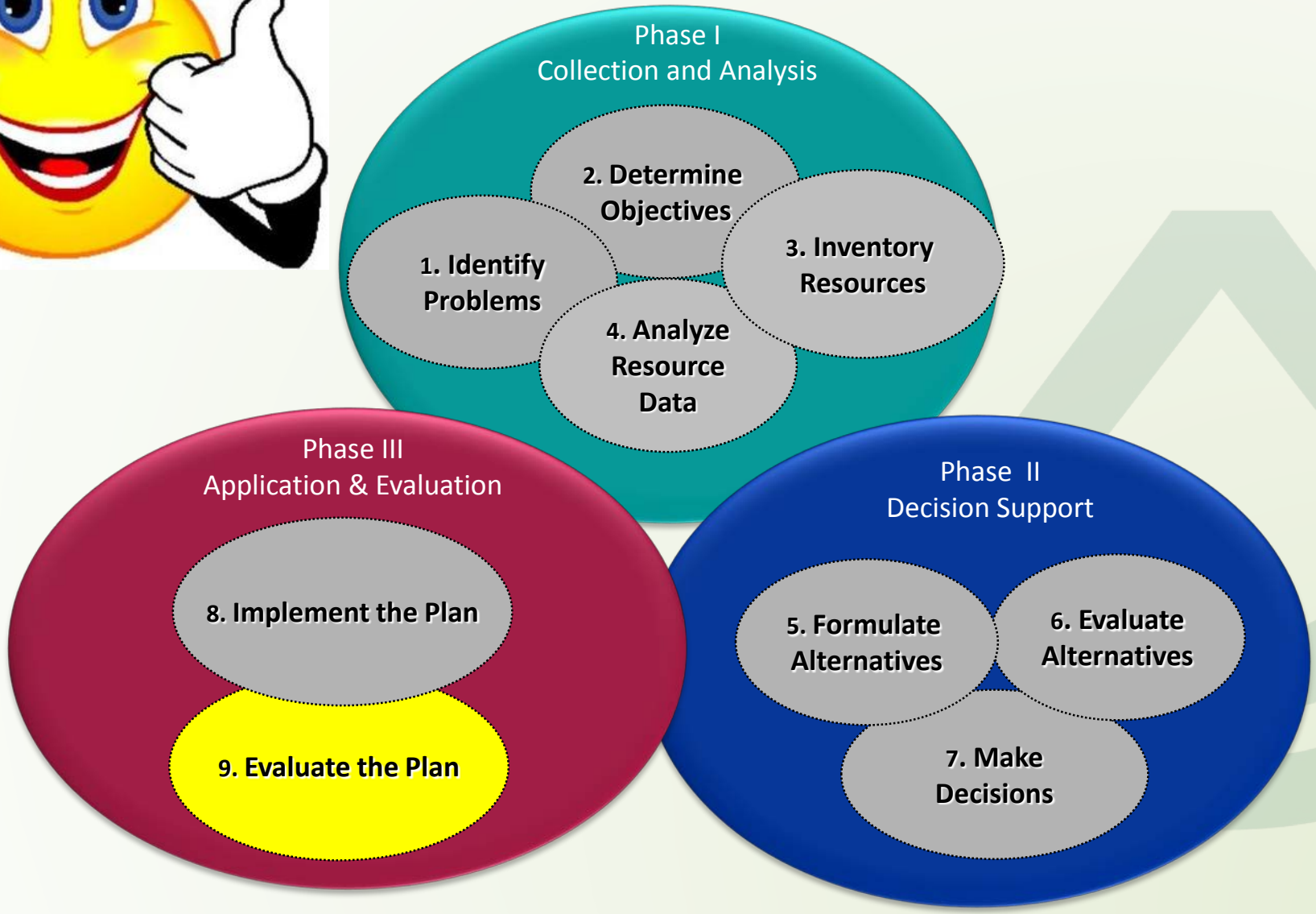
Pre-Construction Meeting

- Include: (Landowner, Contractor, Agencies, Suppliers, etc.)
- Use to communicate responsibilities of each
- **All parties should**:
  - Have complete set of project **documents**
  - **Understand** what is being built
  - Agree on **Installation/Inspection Sequence**
  - Understand how to handle **changes**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Evaluate the effectiveness of an Implemented Plan:

- Is it functioning as planned?
- Is it achieving the objectives?
- Assess any lack of progress in implementation
- Measure actual results
- Evaluate operation and maintenance---required onsite visits
- Planner maintains contact to assess satisfaction to the resource concern and read whether it was successful in the eyes of the client.

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(1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410;

(2) fax: (202) 690-7442; or

(3) email: program.intake@usda.gov.

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