

# Conservation Effects Worksheet

*Land Use:*

*Cropland Guidance Sheet No. 1*

<b>Current Treatment</b>	<b>Treatment Alternative</b>
<p>Nearly level, slightly rolling fields that are cash cropped and fall tilled. Has some evidence of sheet erosion but less than tolerable levels. Maintaining soil tilth and organic matter are the main concerns. Inclusions of standing water delay field operations. Phosphorus levels exceed 300 pounds/acre and soil attached phosphorus causes algae blooms when transported to surface waters. Air resource concerns are negligible. There is not sufficient food and shelter for quail and small game. The operator wants to maintain base acres for USDA program participation.</p>	<p>This Resource Management System will improve soil health. Improvements in water quality can be expected in time. Wildlife food and cover will increase. Farm base for corn will be maintained. Subsurface drainage will remove excess soil water and help with standing water.</p>
<b>Resource Concerns</b>	<b>Proposed Practices</b>
<p>Animal Habitat-Other Nutrient Management Nutrient &amp; Organics in Surface Water Tilth, Crusting, Infiltration, Organic USDA Base Acreage Water Quality Concerns-Other</p>	<p>Conservation Crop Rotation Nutrient Management Pest Management Residue Management, Mulch Till Subsurface Drain</p>
<b>Current Treatment Effects</b>	<b>Proposed Treatment Effects</b>
<p>Absence of food and cover</p>	<p>More grain for quail and small game to eat and more crop residue to hide in.</p>
<p>Unrealistic yield goals; over-fertilizes phosphorus</p>	<p>Less phosphorus used.</p>
<p>Algae blooms</p>	<p>Less soil and soil attached phosphorus in ditch reducing algae blooms.</p>
<p>Cloddy soil, poor structure, needs excessive tillage to prepare seedbed</p>	<p>Minimum tillage will improve soil tilth and organic matter.</p>
<p>Income stability</p>	<p>Maintains base acres. Stabilizes yearly farm income.</p>
<p>Ponded random wet spots</p>	<p>Random tile drains will assist with removal of standing water.</p>

# Conservation Effects Worksheet

*Land Use:  
Cropland Guidance Sheet No. 2*

Current Treatment	Treatment Alternative
These fields are gently sloping cropland. Sheet and rill erosion is present. Fertilizer is being applied in excess of crop needs. Pesticides are being applied at maximum rates Wildlife cover is adequate, but little food is available. Fence rows and woody draws present.	Crop residues are maintained over-winter. Pesticides and nutrients are managed to prevent adverse impacts. Wildlife habitat is improved. Sheet and rill erosion is reduced.
Resource Concerns	Proposed Practices
Air Quality-Other Excess Fertilizer in Soil Excess Pesticide(s) in Soil Nutrient Management Nutrient Management Nutrients & Organics in Ground Water Nutrients & Organics in Surface Water Pesticide(s) in Ground Water Pesticide(s) in Surface Water Plant Pests Plant Productivity Sheet and Rill Erosion Social Considerations-Other Wildlife Cover-Shelter Wildlife Food Requirements	Conservation Crop Rotation Nutrient Management Pest Management Residue Management, Seasonal Wildlife Upland Habitat Management
Current Treatment Effects	Proposed Treatment Effects
Blowing dust	Reduce dust levels.
Fertilizer being applied in excess of crop needs	Controls off-site fertilizer movement. Reduces unneeded fertilizer costs.
Pesticides being applied at maximum rates	Controls off-site pesticide movement.
Fertilizers not applied according to soil tests	Reduce excess nutrient application and potential for runoff.
Excess nutrients are leaching into ground water	Reduce nutrients and organics in ground water.
Fertilizers are causing algae blooms	Reduce nutrients and organics in surface water.
Water soluble pesticides are leaching into ground water	Reduce pesticide in ground water.
Pesticides are present in run-off water	Reduce pesticides in surface water.
Plant pests are adequately controlled	Control plant pests.
Plants are producing high yields	Maintain soil for plant production.
Current soil loss 6 tons/acre/year	Reduce soil loss to 4 tons/acre/year.
Pollution is affecting quality of life. Production is needed to maintain income.	Sustain production and reduction of pollutants.
Fence rows and woody draws provide wildlife cover	Fence rows and woody draws provide for wildlife cover.
Inadequate food sources available	Standing grain near cover for wildlife.

# Conservation Effects Worksheet

*Land Use:*

*Cropland Guidance Sheet No. 3*

<b>Current Treatment</b>	<b>Treatment Alternative</b>
Sandy, rolling soils with frequent crop damage from wind. Replanting is often necessary. Soils are droughty. Poor wildlife values with intensive row cropping system.	This system furrow irrigates leveled land from a well using residues to control wind erosion and crop damage as well as increases in irrigation efficiency and improved water quality. Wildlife values are increased through the use of field borders
<b>Resource Concerns</b>	<b>Proposed Practices</b>
Water Management Plants Health and Vigor Wildlife Cover-Shelter Wind Erosion	Conservation Crop Rotation Field border Irrigation Land Leveling Irrigation System, Surface and Subsurface Irrigation Water Management Residue Management, Seasonal Well
<b>Current Treatment Effects</b>	<b>Proposed Treatment Effects</b>
No irrigation	Land leveling and wells are installed establishing a furrow system for better water management and increase crop yields.
Plant damage from blowing soil and low soil moisture.	Plants not damaged or drought stressed.
No wildlife cover or shelter in or adjacent to crop fields	Field borders planted to grass/legume mixture for improved wildlife habitat.
Dry, sandy soils damage crops Soil loss 10 tons/acre/year	Wind erosion controlled through irrigation and better crop growth. Soil loss reduced to 3 tons/acre/year.

# Conservation Effects Worksheet

*Land Use:  
Cropland Guidance Sheet No. 4*

Current Treatment	Treatment Alternative
Moderately sloping fields that are being intensively cropped with soybeans and have evidence of excessive sheet and rill erosion, ephemeral gully erosion, chemical drift, nutrient and sediment pollution in surface water and inadequate wildlife cover.	This combination of practices will reduce soil erosion to acceptable levels, maintain soil productivity, reduce the potential for chemical drift, as well as manage nutrient inputs according to soil tests. Pesticides will be target specific and applied according to label recommendations. Wildlife shelter will be improved through border plantings.
Resource Concerns	Proposed Practices
Airborne Chemical Drift Ephemeral Gully-Numeric (Tons per Year) Nutrient Management Nutrients & Organics in Surface Water Sheet and Rill Erosion Suspended Sediment/Turbid Surface Water Wildlife Cover-Shelter	Conservation Crop Rotation Grassed Waterway Nutrient Management Pest Management Residue Management, No-Till and Strip Till Wildlife Upland Habitat Management
Current Treatment Effects	Proposed Treatment Effects
Off-site plant damage	Proper application will reduce drift and off-site damage.
20 tons/year	Ephemeral Gully Stabilized with a Grassed Waterway. No erosion.
Over applies phosphorus	Nutrient management, applies N, K, P to match soil test and yield goals.
Soil attached phosphorus causing algae blooms	Integrated Crop Management will reduce phosphorus delivery.
12 tons/acre/year	3 tons/acre/year
High sediment delivery	Reduced sediment delivery improve turbidity.
Quail cover absent	Field border plantings will provide improved wildlife cover.

# Conservation Effects Worksheet

*Land Use:*  
*Cropland Guidance Sheet No. 5*

<b>Current Treatment</b>	<b>Treatment Alternative</b>
This system is a typical cropping and tillage system for areas with moderate rainfall, claypan soils and significant dry periods during the summer months. Soil erosion and low crop yields are major concerns. Crops are left undisturbed over winter with heavy spring tillage activity. Field is farmed up and down hill.	This combination of practices will reduce sheet and rill erosion. Waterways and terraces with underground outlets will control gullies. All crops will be grown on the contour with crop residues being maintained. Infiltration will increase soil moisture.
<b>Resource Concerns</b>	<b>Proposed Practices</b>
Classic Gully-(Tons per Year) Ephemeral Gully-(Tons per Year) Plants Productivity Suspended Sediment/Turbid Surface Water Sheet and Rill Erosion Water Quantity-Other	Conservation Crop Rotation Contour Farming Grassed Waterway Residue Management, Mulch Till Terrace Underground Outlet
<b>Current Treatment Effects</b>	<b>Proposed Treatment Effects</b>
30 tons/year	1 ton/year.
15 tons/year	No Ephemeral erosion.
Extended summer dry periods stress plants and reduce yields.	Increased soil moisture will decrease crop stress during summer dry periods.
10 tons/acre/year	3 tons/acre/year.
Erosion produces sediment in run-off water.	Decreased erosion will produce less sediment in run-off water. Improving Fish Habitat in stream and pond.
Insufficient water available for plant productivity.	Practices slow run-off and increase infiltration increasing crop growth.

# Conservation Effects Worksheet

*Land Use:*

*Cropland Guidance Sheet No. 6*

<b>Current Treatment</b>	<b>Treatment Alternative</b>
Corn-Soybean-Small Grain rotation, fall chisel and spring disk system leaving 10% residue cover after planting. All field operations are performed up and down the hill. Sheet and rill erosion exceeds T. Ephemeral gullies are present. Excessive nutrients and herbicides that are highly water soluble are being applied. Wildlife cover is lacking.	Corn-Soybean-Small Grain rotation. A chisel disk system will be used leaving 30% cover after planting. All tillage operations will be performed in the spring of the year (excluding wheat). Soil tests will be used to determine nutrient needs. Field scouting will be performed to determine pesticide needs and considerations will be given to those pesticides that are low in water solubility. Waterways will be installed to classic gullies and to filter contaminants. Seeding mixtures will be wildlife friendly.
<b>Resource Concerns</b>	<b>Proposed Practices</b>
Ephemeral Gully-(Tons per Year) Excess Nutrients Pesticide(s) in Surface Water Sheet and Rill Erosion	Conservation Crop Rotation Grassed Waterway Nutrient Management Pest Management Residue Management, Mulch Till Wildlife Upland Habitat Management
<b>Current Treatment Effects</b>	<b>Proposed Treatment Effects</b>
10 tons/year	1 ton/year.
Nutrients are applied without the use of a soil test	Soil tests will be used to determine the correct amount of fertilizer to apply plant nutrient needs will be maximized and fertilizer contaminants will be minimized.
Highly water soluble pesticides are being used.	Consideration will be given to pesticides which are not highly water soluble reducing runoff problems.
7 tons/acre/year	4 tons/acre/year.
Wildlife Cover-Shelter Wildlife cover (grasses) is sparse.	All permanent grassed waterway seedings will be wildlife friendly.

# Conservation Effects Worksheet

*Land Use:*

*Cropland Guidance Sheet No. 7*

Current Treatment	Treatment Alternative
Undulating and rolling fields that are intensively cropped. Wet soils in natural drainageways are a nuisance to cross. Erosion control is needed on sloping areas and subsurface drainage is needed in the wet areas. Fence rows have been removed to allow for large fields, which has removed important wildlife cover. Poor tilth and crusting reduce plant population, health and vigor. Air resource concerns are negligible.	No-Till will control erosion. May need subsoiling prior to no-till to improve soil tilth and prevent yield loss. Ephemeral gullies and wet areas can be managed with random subsurface drainage and water and sediment control basins. Pesticide and nutrient management will improve plant health and vigor. Wildlife cover improved with high residue crops after no-till. Leave crop standing along travel routes, field edges to improve wildlife cover.
Resource Concerns	Proposed Practices
Animal Habitat-Other Economics Considerations-Other Ephemeral Gully-(Tons per Year) Plants Health & Vigor Seeps Sheet and Rill Erosion Tilth, Crusting, Infiltration, Organic	Conservation Crop Rotation Nutrient Management Pest Management Residue Management, No-Till and Strip Till Subsurface Drain Water and Sediment Control Basin Wildlife Upland Habitat Management
Current Treatment Effects	Proposed Treatment Effects
Lack of food	No-till increases food over winter. Leaving crops increases food for wildlife.
Low production 6 tons/year	Higher production with improved conservation activity. 1 ton/year.
Poor population, health and vigor	Improved population, vigor, health with subsoiling, no-till and cropping system.
Limits equipment access	Random tile and small tile-outlet structures dry out seeps allowing equipment access.
11 tons/acre/year	3 tons/acre/year.
Poor soil structure	Standing water removed by subsurface drainage.