United States Department of Agriculture
Natural Resources Conservation Service

August 2009

Conservation Stewardship Program:

Records Consolidation Workbook

Contact: USDA–Natural Resources Conservation Service

Office Name: _____

Telephone #: _____

The Conservation Security Program (CSP) is a voluntary conservation program administered by the Natural Resources Conservation Service (NRCS), an agency of the United States Department of Agriculture (USDA).

Helping People Help the Land

YOUR NAME: _____

ADDRESS: _____

_____

_____

PHONE NUMBER: _____

E-MAIL ADDRESS: _____

Please provide a map of the land you intend to enroll in CSP. Also, list the location of the land, or portion of land, you intend to enroll is CSP.

NAME of LAND: _____
(Example – Smith Farm)

ZIP CODE: _____

WATERSHED: _____

LOCATION: _____
(Township, Range, Section, Tract #, Farm #, etc.)

☐ **I certify that:**

1. The Benchmark Condition Inventory and the written records or documentation that support the inventory are accurate to the best of my knowledge.

2. Two years of written records or documentation are available and are being used for the management of my conservation system. I will supply written records and documentation upon NRCS request.

_____ _____
Signature Date

CONSERVATION RECORDS

Check the boxes below for Field Equipment used in your farming operation:

	Planter
	Double-disk opener with or without fluted coulter
	Double-disk opener, 18" rows
	Furrow opener in 4", 6", or 8" deep furrows
	In-row subsoiler
	Narrow slot w/smooth or rippled coulter
	Runner opener
	Ridge till attachments
	Strip till attachments

	Drill or Air Seeder
	Tee slot openers, 7-10" rows
	Hoe/chisel openers, 12-15" rows
	Hoe/chisel openers, 6-12" rows
	Sweep or band opener
	Offset double-disk openers
	Double-disk openers
	Single-disk openers, 7-10" rows
	Double-disk opener w/fluted coulter
	Double-disk opener w/fert. openers
	Single-disk openers + fert. openers, 7-10" rows/spacing
	Deep or semi-deep furrow, 12-18" spacing
	Heavy, direct-seed, double-disk opener with or w/o row cleaners
	Double-disk, 7-8" packer

	Other Equipment

	Fertilizer Applicators
	Coulter, high pressure injector, 12" spacing
	Anhydrous knife, 12" spacing
	Shank low disturbance, 12" spacing
	Deep placement heavy shank
	Surface broadcast spreader
	Anhydrous knife, 30" spacing
	Strip till, 30" spacing

	Manure Application
	Liquid high disturb, 30" spacing
	Liquid low disturb, 30" spacing
	Liquid low disturb, 15" spacing
	Dry manure spreader

	Combine
	Rotary with residue spreader
	Rotary without residue spreader
	Non-rotary with residue spreader
	Non-rotary without residue spreader

	Stalk Shredding Equipment
	Shredder, flail or rotary
	Shredder, rotary mower
	Stalk chopper, rotary
	Other shredding equipment

	Tillage/Cultivation Equipment
	Field cultivator, field, 6-12" shovels
	Chisel, sweep shovel
	Field cultivator, field, 6-12" sweeps
	Chisel, twisted shovel
	Field cultivator, field w/ spike points
	Disk, offset, heavy
	Disk, tandem, heavy primary
	Disk, tandem, light finishing
	Mulch finisher (one pass)
	Residue, row cleaner
	Rodweeder
	Rotary hoe
	Row cultivation
	Seedbed finisher
	Subsoiler
	Subsoiler ripper, 24-40" deep
	Harrow, coiled tine
	Harrow, heavy or rotary
	Harrow, spike tooth or tine on beds
	Power mulcher bed conditioner
	Plow, disk
	Plow, moldboard

Example Cropping System Worksheet

Producer: John Smith

Tract No: 943 Fields: 1, 2, 3, & 4

Crop Rotation

1st Year	Corn/Grain	4th Year	Winter Wheat
2nd Year	Fallow	5th Year	Alfalfa (7 years)
3rd Year	Bean	6th Year	

Tillage Operations and Yield — **Yield (5-year Average Normal Precipitation)**

Crop 1:	Corn - 130 bu yield
Date:	**Operations:**
4/1	Moldboard Plow
4/15	Tandem Disk
4/20	Chisel w/sweeps
5/1	Double-disk Planter - 30" rows
6/15	Row Cultivate
7/1	Row Cultivate
10/1	Harvest for Grain

Crop 4:	Barley - 70 bu yield
Date:	**Operations:**
3/15	Disk Offset
4/1	Cultipacker, roller
4/5	Double-disk Drill - 10" row
7/1	Harvest
9/1	Graze Wheat Stubble

Crop 2:	Fallow
Date:	**Operations:**
5/15	Offset Disk
6/15	Chisel Plow Sweeps
7/20	Chisel Plow Sweeps
9/1	Chisel Plow

Crop 5:	Alfalfa - 4 ton yield
Date:	**Operations:**
4/1	Moldboard Plow
4/15	Offset Disk
4/20	Tandem Disk
5/15	Double-disk Drill - 10" rows
7/1	Harvest
9/1	Harvest
10/1	Graze Alfalfa Aftermath

Crop 3:	Beans - 20 cwt yield
Date:	**Operations:**
3/1	Grazed Corn Stubble
5/1	Moldboard Plow
5/15	Tandem Disk
5/20	Chisel with Sweeps
6/1	Double-disk Planter - 30" rows
7/1	Row Cultivate
9/10	Harvest

Crop 6:	
Date:	**Operations:**

Example

Producer: John Smith

☐ Dryland ☐ Irrigated

If irrigated, please indicate the approximate date and amount of water applied during the growing season in the following tables:

Crop 1:	Corn
Date:	**Operations:**
June	3"
July	2"
Aug	2"
Sept	2"

Crop 4:	Barley
Date:	**Operations:**
May	1"
June	6"
July	7"
Aug	1"

Crop 2:	Fallow
Date:	**Operations:**

Crop 5:	Alfalfa
Date:	**Operations:**
May	1"
June	6"
July	8"
Aug	7"
Sept	2"

Crop 3:	Beans
Date:	**Operations:**
June	3"
July	8"
Aug	4"

Crop 6:	
Date:	**Operations:**

Cropping System Worksheet

Producer: _____

Tract No: _____ Fields: _____

Crop Rotation

1st Year		4th Year	
2nd Year		5th Year	
3rd Year		6th Year	

Tillage Operations and Yield		Yield (5-year Average Normal Precipitation)	
Crop 1:		**Crop 4:**	
Date:	**Operations:**	**Date:**	**Operations:**
Crop 2:		**Crop 5:**	
Date:	**Operations:**	**Date:**	**Operations:**
Crop 3:		**Crop 6:**	
Date:	**Operations:**	**Date:**	**Operations:**

Producer: _____

☐ Dryland ☐ Irrigated

If irrigated, please indicate the approximate date and amount of water applied during the growing season in the following tables:

Crop 1:		**Crop 4:**	
Date:	**Operations:**	**Date:**	**Operations:**

Crop 2:		**Crop 5:**	
Date:	**Operations:**	**Date:**	**Operations:**

Crop 3:		**Crop 6:**	
Date:	**Operations:**	**Date:**	**Operations:**

Example

Producer: John Smith

☐ Dryland ☐ Irrigated

Please indicate the approximate cutting height, cutting date, and approximate regrowth height of forage prior to a killing frost.

Species 1: Alfalfa

Date:	**Cutting Height**
May	
June	3"
July	2"
Aug	2"
Sept	

Species 1: Alfalfa

Date:	**Regrowth Prior to Frost**
June	
July	
Aug	
Sept	7"
Oct	

Species 2: Smooth Brome

Date:	**Cutting Height**
May	
June	3"
July	
Aug	
Sept	

Crop 2: Smooth Brome

Date:	**Regrowth Prior to Frost**
June	4"
July	
Aug	
Sept	
Oct	

Species 3:

Date:	**Cutting Height**
May	
June	
July	
Aug	
Sept	

Species 3:

Date:	**Regrowth Prior to Frost**
June	
July	
Aug	
Sept	
Oct	

Producer: _____

☐ Dryland ☐ Irrigated

Please indicate the approximate cutting height, cutting date, and approximate regrowth height of forage prior to a killing frost.

Species 1: _____		**Species 1:** _____	
Date:	**Cutting Height**	**Date:**	**Regrowth Prior to Frost**

Species 2: _____		**Species 2:** _____	
Date:	**Cutting Height**	**Date:**	**Regrowth Prior to Frost**

Species 3: _____		**Species 3:** _____	
Date:	**Cutting Height**	**Date:**	**Regrowth Prior to Frost**

Nutrient (fertilizer) Management Information Worksheet:

- If no fields received a fertilizer application leave the information below blank and check this box. ☐

Field(s)	Yield goal of crop harvested or grazed	Date most current soil test	Fertilizer product(s) applied for crop	Timing and Amount of fertilizer product applied for crop per acre
Fields 1, 2, & 3	Corn - 140 bu	10/21/06	Anhydrous 82-0-0 Liquid 10-34-0	Sep 20 - 200 #/ac May 15 - 10 gal/ac
Fields 4 & 5	Alfalfa 4 tons (two cuttings)	none	none	N/A
Field 6	Winter Wheat - 90 bu	08/15/06	16-20-0 45-0-0	Sep 1 - Banded 100 #/ac May 15 - Broadcast 250 #/ac
Field 7	Dry Beans - 35 bu	none	none	N/A
Field 8	Pasture - 1 ton/ac	03/01/06	Dry 46-0-0	May 1 - Broadcast 75 #/ac

Example

Field(s)	Yield goal of crop harvested or grazed	Date most current soil test	Fertilizer product(s) applied for crop	Timing and Amount of fertilizer product applied for crop per acre

Insert additional pages as needed.

Animal Manure Nutrient Management Information Worksheet:

- If no fields received animal manures/organic by-products leave the information below blank and check this box. ☐

Field(s)	Land use and acres	Manure Application Date(s)	Type of Manure	Tons applied or gallons of manure applied
Field 5	25	09/01/06	Feedlot manure	20 tons/acre
Field 2	45	3/1/06 - 3/4/06	Swine slurry	96 loads w/2,000 gallon honey wagon
Field 4	20	06/10/06	Beef runoff pond	200,000 gallons @10,000 gallons/acre with volume gun

Example

Field(s)	Land use and acres	Manure Application Date(s)	Type of Manure	Tons applied or gallons of manure applied

Insert additional pages as needed.

Pest (weed/insect/disease) Management Information Worksheet: See page 2 for pesticide mitigation techniques used.

List each crop harvested and/or pasture type grazed	Pest treated	Control treatment(s)	Pesticide Mitigation Techniques	Application timing and method
Corn	Red root pigweed Foxtail and other summer annual grasses	Mechanical Glyphosate **Example**	Decay - Wind Speed	May 3 - Tillage - 60ac Sep 1 - Post Broadcast 120 ac
Wheat	Cheat Grass	Maverick	spot treatment	Sep 1 - 5 acres on outside edge of field
Brome pasture	Canada Thistle	Tordon 22K Mechanical	Spot Treat buffer	Sep 15 - Spot-treat rosettes July 5 - Mow @ Bloom

List each crop treated	Pest treated	Control treatment(s)	Pesticide Mitigation Techniques	Application timing and method

Insert additional pages as needed.

Pest (weed/insect/disease) Management Information Worksheet:

Check any of the following pesticide mitigation techniques used in your operation that would reduce the hazard of leaching or runoff:

APPLICATION TIMING: Reduces exposure potential - delaying application when significant rainfall events are forecast can reduce pesticide transport to ground and surface water, application when conditions are optimal can reduce the amount of pesticide applied, also delaying application when wind speed is not in accordance with label requirements can reduce pesticide drift to surface water.	
LOWER APPLICATION RATES: Reduces exposure potential - use lowest effective rate by applying when pest is in the early growth stage.	
PARTIAL TREATMENT: Reduces exposure potential - spot treatment, banding and directed spraying reduce amount of pesticide applied.	
SCOUTING and INTEGRATED PEST MANAGEMENT (IPM): Reduces exposure potential - reduces the amount of pesticide applied.	
IMPROVED PESTICIDE APPLICATIONS: Lower boom height (near canopy cover), lower pressure nozzles, or precision ag technology to reduce potential of drift.	
ESTABLISHED PESTICIDE MIXING SITE: Reduces the potential for point source pesticide contamination since this area is not located near a well head or other sensitive site (water).	
WELL DECOMMISSIONING: Eliminates point source contamination.	
IRRIGATION WATER MANAGEMENT: Reduces exposure potential - water is applied at rates that minimize pesticide transport to ground and surface water, promotes healthy plants which can better tolerate pests.	
BROADLEAF and GRASS CROP ROTATION; COOL SEASON CROPS WITH WARM SEASON CROPS: Reduces the need for pesticides by breaking pest lifecycles. With a change in crops there is usually a change in pesticides. This change will reduce the potential of pest-chemical resistance. (ie Corn to Alfalfa or Winter Wheat to Dry Beans).	
BIOLOGICAL IPM CONTROL: Introduce selected natural enemy into pest's environment.	
CULTURAL IPM CONTROL: Plant competitive crops instead of fallow (Indianhead lentils or annual legumes). Plant later in year so tillage will remove first flush of weeds. Wash equipment before entering another field. Harvesting early to remove the pest. Light irrigations often to discourage the pest. Crop resistant varieties are selected. Selecting certified seed.	
MECHANICAL IPM CONTROL: Using tillage, mowing or clipping, hand pulling to physically destroy the pest.	
BUFFER: Permanent vegetation planted adjacent to a sensitive area (surface waterbody) where sediment and pesticides could be trapped if a runoff event occurs in the area where a pesticide was applied. Minimum of 10 feet wide.	
SETBACK: Not applying pesticides within 100 feet of a sensitive area (surface waterbody). Reduces exposure potential – reduced applications area reduces amount of pesticide applied, can also reduce inadvertent pesticide application and drift to surface water. This practice is not effective if the soil is susceptible to leaching.	

Irrigation Management Information Worksheet: If no fields are irrigated leave the information below blank and check this box. ☐

Field(s)	List each crop harvested and/or pasture grazed	Irrigation type (sprinkler, flood, or other)	Irrigation water applied last growing season (in/ac)	Rainfall amount during last growing season (inches)
Fields 1 & 3	Alfalfa	Contour flood	12"/acre	13"
Fields 2 & 6	Corn	Center pivot	11"/acre	16"
Fields 4 & 5	Grass Pasture	Sprinkler-Wheel line	6"/acre	9"

Example

Field(s)	List each crop harvested and/or pasture grazed	Irrigation type (sprinkler, flood, or other)	Irrigation water applied last growing season (in/ac)	Rainfall amount during last growing season (inches)

Insert additional pages as needed.

Check the box that applies to your irrigation system and management:
(Irrigation Descriptions and Definitions follow)

Check Box	**Improved Water Measurement**
☐	No flow measuring devices
☐	Flow measurement – whole farm, manually recorded
☐	Flow measurement – whole farm, automatically recorded
☐	Flow measurement – whole farm plus individual field, manually recorded
☐	Flow measurement – whole farm plus individual field, automatically recorded

Check Box	**Improved Soil Moisture Monitoring and Irrigation Scheduling**
☐	Visual crop stress
☐	Soil moisture by NRCS feel method
☐	Check book scheduling, irrigation scheduler, etc.
☐	Irrigation scheduling via pan evaporation or atmometer for field
☐	Irrigation scheduling via regional weather network
☐	Soil moisture using Gypsum blocks, tensiometers, moisture probe, etc.
☐	Continuous measurement of soil moisture, water applied and ET

Check Box	**Irrigation System Type**
☐	Border – Graded Border
☐	Border – Level Basin
☐	Border – Guide
☐	Border – Contour, Level Field Crop
☐	Border – Contour, Level Rice
☐	Border – Contour, Level Rice Side Inlets
☐	Border – Border Ditch
	Furrow
☐	Furrow – Level or Basin
☐	Furrow – Graded Furrow
☐	Furrow – Contour Furrow
☐	Furrow – Corrugations
☐	Furrow – Surge
	Subirrigation
☐	Subirrigated
	Flood
☐	Flood – Controlled
☐	Flood – Uncontrolled
☐	Flood – Contour Ditch
	Sprinkler
☐	Sprinkler – Big Gun or Boom
☐	Sprinkler – Hand Line or Wheel Line
☐	Sprinkler – Solid Set (above canopy)
☐	Sprinkler – Solid Set (below canopy)
	Center Pivot
☐	Center Pivot – Generic
☐	Center Pivot – Low Pressure Improved
☐	Center Pivot – Low Energy Precision Application (LEPA)

- ☐ Center Pivot – Low Elevation Spray Application (LESA)
- ☐ Center Pivot – Low Pressure In Canopy (LPIC)
- ☐ Center Pivot – Mid Elevation Spray Application (MESA)
- ☐ Center Pivot – Variable Rate Irrigation (VRI)
- ☐ Lateral Move – Generic
- ☐ Lateral Move – (LEPA, LESA, LPIC, MESA)
- ☐ Lateral Move – (VRI)

Micro

- ☐ Micro, Point Source
- ☐ Micro, Sprays
- ☐ Micro, Continuous Tape
- ☐ Micro, Subsurface Drip Irrigation (SDI)

Check Box **Improved Distribution System**

- ☐ Very poor diversion facilities. Little control of flow rate to farm.
- ☐ Can control flow rates to farm, but the farm delivery system is such that it is very difficult to deliver the desired flow to any given field.
- ☐ Flow rates to each field are adequately controlled. Flow rates to each set are difficult to control.
- ☐ All flow rates to each set are adequately controlled.

Check Box **Improved Conveyance System**

- ☐ Open ditch or canal – sand/gravel
- ☐ Open ditch or canal – sandy loam
- ☐ Open ditch or canal – clay soil
- ☐ Open canal – lined
- ☐ Closed conduit pipeline

Check Box **Improved Land Leveling**

- ☐ Land smoothed
- ☐ Land leveled
- ☐ Land precision leveled
- ☐ Land precision leveled – slope <= .005
- ☐ A sprinkler system is utilized

Check Box **Adding tailwater recovery with and without irrigation storage reservoirs**

- ☐ None
- ☐ Tailwater reuse system – Potential system efficiency <61%
- ☐ Tailwater reuse system – Potential system efficiency 61–80%
- ☐ Tailwater reuse system – Potential system efficiency >80%

Improved Soil Condition Index

This value will be calculated by NRCS from your crop and tillage information.

Irrigation Descriptions and Definitions

Irrigation System Type: This section represents the system type associated with the field or farm. Some systems are clearly more efficient and easier to manage than other systems. Simply select the system that best describes your system. Local terminology may be slightly different but the system names should be adequate to describe most systems.

Definition of terms related to Center Pivots:

LEPA - Low Energy Precision Application

a) Farmed in circular rows (except Lateral Move Systems)
b) Nozzle height is 18 inches or lower
c) Nozzle spacing is alternate row, up to a maximum of 80 inches
d) Discharge is through a drag sock or hose on the ground, or through a bubble shield or pad
e) Only applicable to crops planted with furrows or beds
f) Maximum of 1 percent slope in most of field
g) Furrow Diked or other means of preventing irrigation water movement away from point of application

LESA - Low Elevation Spray Application

a) Farmed in any row direction
b) Nozzle height is 18 inches or lower
c) Nozzle spacing is alternate row, up to a maximum of 80 inches
d) Discharge is through spray nozzles
e) Applicable on crops flat planted, drilled, or planted with furrows or beds
f) Maximum of 3 percent slope in most of field
g) Furrow Diked or other means of preventing irrigation water movement away from point of application

LPIC - Low Pressure In Canopy

a) Farmed in any row direction
b) Nozzle height is 18 inches to 36 inches
c) Nozzle spacing up to 120 inches (10 feet)
d) Discharge is in the crop canopy
e) Maximum of 3 percent slope in most of field
f) Systems that utilize bubble nozzles or drag hoses for a portion of the crop year and spray nozzles for a portion of the crop year but do not meet all LEPA criteria should be considered LPIC systems

MESA - Mid Elevation Spray Application

a) Farmed in any row direction
b) Nozzle height is more than 36 inches (3 feet) and less than 84 inches (7 feet)
c) Nozzle spacing up to 120 inches (10 feet)
d) Discharge is above the crop canopy
e) Maximum of 3 percent slope in most of field

Variable Rate Irrigation (VRI), also called site-specific irrigation or precision irrigation, is a relatively new concept in agriculture. Variable rate irrigation is a tool of Precision Farming that involves the delivery of irrigation water in optimum amounts over an entire field.

Method of Measuring Flow: Water measurement is a critical component of any well planned and managed irrigation system. Knowing how much water is delivered to a farm, field, or irrigation set is critical to making efficient use of water.

- **No flow measuring devices –** No flow measuring devices are present. The applicant has no way of measuring and recording the amount of water delivered to the farm, to the fields, or to the irrigation set.
- **Flow measurement - whole farm, manually recorded –** The applicant has a measuring device (calibrated flume or flow meter) that can be used to measure the amount of water that is delivered to the farm. It may be a flow meter on a well that serves one field or a calibrated flume that measures water delivered through a distribution system to the farm. The measurement system does not automatically record the measurement. The applicant must inspect the measurement device and manually record the results in a routine manner and the results used in irrigation planning and scheduling.
- **Flow measurement - whole farm, automatically recorded –** Flow measurement are taken utilizing the process described immediately above but the measurements are automatically recorded and are used in planning and scheduling irrigation.
- **Flow measurement - whole farm plus individual field, manually recorded –** The applicant has the ability to measure water that comes to the whole farm as well as to each individual field. The flow measurements are obtained utilizing a measuring device such as a flow meter. In this instance the applicant can measure the water flowing to the farm and to each field. He routinely checks and records the data manually and uses the results to plan and schedule irrigation.
- **Flow measurement - whole farm plus individual field, automatically recorded –** The applicant has the ability to measure water flowing to the farm and to each field using flow meters or flumes. The results are automatically recorded using a recording device and used for planning and scheduling irrigation.

Method of Scheduling Irrigation:

- **Visual crop stress –** Water management decisions are made from visual indicators related to crop growth. In some instances the crops may be stressed before decisions are made to add needed water.
- **Soil moisture by NRCS feel method –** Soil moisture is used as the factor to determine when water is to be added using the NRCS feel method. The manager has received some training and has a publication that describes the NRCS feel method.
- **Check book scheduling, irrigation scheduler, etc. –** A check book method is used to track and schedule irrigation. Training and fact sheets are available from land grant universities and the results are commonly utilized to manage timing and application of irrigation water.
- **Irrigation scheduling via pan evaporation or atmometer for field –** Other slightly more sophisticated systems provide reliable methods for scheduling irrigation water applications. Pan evaporation and atmometers are listed here but other devices may be available.
- **Irrigation scheduling via regional weather network –** An irrigation scheduling system or network that includes weather stations that track climatic conditions and predict irrigation water needs is utilized. These may include on site weather stations or regional weather stations that are operated by commercial or public entities. These networks may be on-line or a group of operators within the watershed area that are moving toward precision water application.
- **Soil moisture using gypsum blocks, moisture probe, etc. –** Methods to track soil moisture including gypsum block, tensiometers, soil moisture probes and other similar tools are used. With calibration these methods become very accurate.

- **Continuous measurement of soil moisture, water applied and ET –** This combines all methods soil Climate and Checkbook to perform Precision application
- **Ability to Control Water Distribution –** This management enhancement recognizes the ability of the irrigator to manage, direct and control the water flow stream on to the farm, across the farm to one or more fields, and to multiple irrigation sets that may be on the farm or field. The better the control, the higher the irrigation enhancement.

Most pumped and piped distribution systems provide adequate control to each set:

- Very poor diversion facilities, little control of flow rate to farm
- Can control flow rates to farm, but the on farm delivery system is such that it is very hard to deliver the desired flow to any given field
- Flow rates to each field are adequately controlled. Flow rates to each set are difficult to control
- All flow rates to each set are adequately controlled - Should be selected for Center Pivots and other pumped and piped distribution systems

Water Conveyance: Water movement across the farm is a critical component. Losses occur from evaporation and deep percolation within the ditch. Sandy soils have more potential for water losses than clay soils. Lined ditches and canals have evaporation losses but limited deep percolation losses. Closed conduits are the most efficient water delivery systems.

- **Open ditch or canal, sand/gravel –** Ditches and canals may involve a combination of soils with part of the conveyance in sandy soils and part in clay soils. Select the factor that is predominant
- **Open ditch or canal, sandy loam –** Ditches and canals may involve a combination of soils with part of the conveyance in sandy soils and part in clay soils. Select the factor that is predominant
- **Open ditch or canal, clay soil –** Ditches and canals may involve a combination of soils with part of the conveyance in sandy soils and part in clay soils. Select the factor that is predominant
- **Open canal, lined –** Concrete, plastic, or other impervious materials
- **Closed conduit pipeline –** Plastic, concrete, or other pipeline materials
- **Precision of Land Slope –** Precision leveled fields have higher efficiency potential and are easier to manage that less controlled grades and slopes. This enhancement category recognizes this factor.
- **Land smoothed –** This factor represents land that has been smoothed. Highs and lows have been manipulated to provide a more uniform flow of water but not to the precision listed below. This is the value that should be selected if any of the factors below do not apply.
- **Land leveled –** Land that has been leveled but conventional survey and construction equipment has been utilized.
- **Land precision leveled –** This factor represents land that has been precision leveled utilizing laser controlled equipment with high quality control. The grade will be more than a half (½) percent.
- **Land precision leveled, slope <= .005 –** This factor represents precision leveled land that is a half (½) percent grade or less.
- **A sprinkler system is utilized –** Land leveling is not a component that is considered in any of the sprinkler systems. It is only considered for surface systems.

Pastureland and Rangeland Benchmark Condition Inventory

The following Grazing Records charts are provided for your use in keeping track of your grazing records on pastureland/rangeland and will help you determine the current balance of forage and animals on each field.

For each field, records need to include number and type of livestock, dates in and out of each pasture and any records indicating forage production levels. This information is needed for both winter-use and summer-use fields. Feed records for supplemental and winter feeding need to show tons of feed fed, number of animals, and any supplemental feed or mineral that is fed.

This will help you and your conservation planner determine if your grazing system is balanced for the most sustainable use of your grazing land.

Use the following descriptions to determine your Use Level for the chart. At or near the end of the grazing period determine the degree of use from the chart below. When properly grazed, the vegetation left will supply adequate cover for soil protection and will maintain or improve the quantity and quality of desirable vegetation (identified as "moderate" below).

Degree of Use	Description
None: 0-15%	Very little or no use of key forage plants. Only choice areas and choice forage grazed.
Light: 16-35%	Key forage plants lightly to moderately used. Practically no use of low-value forage plants. Most of accessible range shows grazing. Very little trailing to grazing.
Moderate: 36-65%	Key forage plants used correctly for the season of grazing. Some use of low-value forage plants. All fully accessible areas are grazed; some trampling damage may be evident.
Heavy: 66-80%	Key forage plants closely cropped. Low-value forage plants generally being grazed. Trampling damage is widespread in accessible areas.
Severe: 81-100%	Key forage plants are weakened from continual grazing of regrowth and mechanical damage. Low-value forage plants carrying the grazing load and are closely cropped.

The year-round forage and feed balance worksheet will provide an overall description of your livestock operation, including the number of animals you have and their corresponding animal unit equivalents (aue). One animal unit is equivalent to the intake required for one 1,000 pound mature cow and her calf. This worksheet will also help to identify the appropriate number of Animal Units per Month (AUM) needed for your livestock. An AUM is the amount of forage needed to sustain one animal unit, or its equivalent, for one month. This equates to 26 pounds of dry feed for one day and 790 pounds of dry feed for one month. Your total AUMs/year will determine the number of AUMs of forage or roughage needed for your operation. Please refer to the example on the page 36 for your reference and then fill out your information on the page after that.

(If you have a more detailed worksheet that you prefer to use, work with your local conservationist).

Grazing Record - Pastureland and Rangeland

If no pasturelands or rangelands were grazed leave the information below blank and check this box. ☐

Mgmt Unit	Acres	Livestock Type	Livestock Number	Date In	Date Out	Days Grazed	Use Level: (none, light, moderate, heavy, severe)	Managed access to streams*
Jones R1	160	Yearlings	40	05/01/06	10/01/06		Moderate	
T1762P1	160	Cow with Calf	20	04/15/06	10/07/06		Heavy	

Example

***Enter the appropriate code for managed access to streams:**

R = 30 days or more "**R**est" from livestock grazing during the growing season

WG = **W**ater **G**aps that limit livestock access

Ex = **Ex**clude or minimize livestock use of streams through fencing or herding

OS = Minimize livestock use of streams by having dependable **O**ff-**S**tream water facilities at distances of 100 to 1,000 yards from the stream

Year:_____

Mgmt Unit	Acres	Livestock Type	Livestock Number	Date In	Date Out	Days Grazed	Use Level: (none, light, moderate, heavy, severe)	Managed access to streams*

Insert additional pages as needed.

Year:_____

Mgmt Unit	Acres	Livestock Type	Livestock Number	Date In	Date Out	Days Grazed	Use Level: (none, light, moderate, heavy, severe)	Managed access to streams*

Insert additional pages as needed.

Noxious Weeds/Invasive Species

Include record of noxious weed control on the Pest Management Information Worksheet of this workbook. Write and describe your methods for noxious weed control and suppression. These records should include the type of pesticide (herbicides and insecticides) used, amount of pesticide used and method of application as it pertains to your field of fields as identified on the map. This includes prairie dog control records. Indicate if the pesticide is soil incorporated, banded, surface applied, foliar applied, etc.

Irrigated Pasture

For irrigated pastures, be sure to include irrigation records on the Irrigation Management Information Worksheet of this workbook.

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Owner/Operator Example 2 | Location 12 miles west of Leinen | Technician Example | Date 08/16/06

TYPICAL FORAGE/FEED NEEDS & SUPPLY (Number of head X AUE = AUM's by month)

Animal Class	Base No.	AUE	Jan Head	Jan AUM's	Feb Head	Feb AUM's	Mar Head	Mar AUM's	Apr Head	Apr AUM's	May Head	May AUM's	Jun Head	Jun AUM's	Jul Head	Jul AUM's	Aug Head	Aug AUM's	Sep Head	Sep AUM's	Oct Head	Oct AUM's	Nov Head	Nov AUM's	Dec Head	Dec AUM's	Total AUM's/ Class
cows	263	1.25	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	4936
calves	242	0.42	297	297	297	297	0					0	0	0	0	0	0	0	0	0	0	297	297	297	297	297	581
rpl.hfr.	300	0.75	300	300	300	300	300	300	300	300	300	300	300	300	300	300											270
yrlngs.	0	0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
bulls	9	1.35	9	12	9	12	9	12	9	12	9	12	9	12	9	12	9	12	9	12	9	12	9	12	9	12	146
yrgBulls	2	0.75	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	18
horses	81	2.25	182	182	182	182	182	182	182	182	182	182	182	182	182	182											270
																	0										
				0		0		0		0		0		0		0		0		0		0		0		0	0
				0		0		0		0		0		0		0		0		0		0		0		0	0
				0		0		0		0		0		0		0		0		0		0		0		0	0
Total AUM Needs by month =			388	388		388		388		322		322		322		322		322		322		398		398		388	4221
				0		0		0		0		0		0		0		0		0		0		0		0	0
																											AUM's per brood cow = 16.0
AUM's available from forage=	0			0		0		70		180		330		310		310		310		400		200		0			2110
AUM's available from feed=	400			400		400		280		150		0		0		0		0		0		200		400			2230
Total AUM's available =			400	400		400		350		330		330		310		310		310		400		400		400			4340
Balance (Available - Needs)			12	12		12		28		8		8		8		8		8		2		2		12			119

CONTINGENCY FOR 50 % FORAGE/FEED NEEDS & SUPPLY (Number of head X AUE = AUM's by month)

Animal Class	Base No.	AUE	Jan Head	Jan AUM's	Feb Head	Feb AUM's	Mar Head	Mar AUM's	Apr Head	Apr AUM's	May Head	May AUM's	Jun Head	Jun AUM's	Jul Head	Jul AUM's	Aug Head	Aug AUM's	Sep Head	Sep AUM's	Oct Head	Oct AUM's	Nov Head	Nov AUM's	Dec Head	Dec AUM's	Total AUM's/ Class
cows	263	1.25	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	1992
calves	242	0.42	102	102	102	102						0	0	0	0	0	0	0	0	0	0	102	102	102	102	102	58
rpl.hfr.	300	0.75	182	182	182	182	182	182	182	182	182	182	182	182	182	182											216
yrlngs.	0	0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
bulls	9	1.35	7	9	7	9	7	9	7	9	7	9	7	9	7	9	7	9	7	9	7	9	7	9	7	9	113
yrgBulls	2	0.75	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	18
horses	4	1.25	4	5	4	5	4	5	4	5	4	5	4	5	4	5	4	5	4	5	4	5	4	5	4	5	60
				0		0		0		0		0		0		0		0		0		0		0		0	0
				0		0		0		0		0		0		0		0		0		0		0		0	0
				0		0		0		0		0		0		0		0		0		0		0		0	0
Total AUM Needs by month =			210	210		210		210		200		200		200		200		200		200		210		210		210	2457
				0		0		0		0		0		0		0		0		0		0		0		0	0
																											AUM's per brood cow = 9.3
AUM's available from forage=	0			0		0		35		90		165		155		155		155		200		100		0			1055
AUM's available from feed=	250			200		200		140		75		0		0		0		0		0		100		200			1165
Total AUM's available =			250	200		200		175		165		165		155		155		155		200		200		200			2220
Balance (Available - Needs)	40			-10		-10		-25		-35		-35		-45		-45		-45		-10		-10		-10			-237

May 15th Contingency: By June 1-Sell old horses, All 9 & 10 yr. old cows and 20% of all other age cows, replacements & bulls, early wean calves.

USDA-NRCS-WY

Year-Round Forage and Feed Balance

WY-ECS-20 Rev: 08/2004

Technician _____ Date _____

Owner/Operator Location _____

TYPICAL FORAGE/FEED NEEDS & SUPPLY (Number of head X AUE = AUM's by month)

Animal Class	Base No.	AUE	Head	Jan AUM's	Feb AUM's	Mar AUM's	Apr AUM's	May AUM's	Jun AUM's	Jul AUM's	Aug AUM's	Sep AUM's	Oct AUM's	Nov AUM's	Dec AUM's	Total AUM's/ Class
cows		1														
calves		0.4														
rpl.hfr.		0.75														
yrlngs.		0.75														
bulls		1.35														
yrgBulls		0.75														
horses		1.25														
Total AUM Needs by month =																
																AUM's per brood cow =
Forage AUM's available =																
Feed AUM's =																
Total AUM's available =																
Balance (Available - Needs)																

CONTINGENCY FOR 50 % FORAGE/FEED NEEDS & SUPPLY (Number of head X AUE = AUM's by month)

Animal Class	Base No.	AUE	Head	Jan AUM's	Feb AUM's	Mar AUM's	Apr AUM's	May AUM's	Jun AUM's	Jul AUM's	Aug AUM's	Sep AUM's	Oct AUM's	Nov AUM's	Dec AUM's	Total AUM's/ Class
cows		1														
calves		0.4														
rpl.hfr.		0.75														
yrlngs.		0.75														
bulls		1.35														
yrgBulls		0.75														
horses		1.25														
Total AUM Needs by month =																
																AUM's per brood cow =
Forage AUM's available =																
Feed AUM's =																
Total AUM's available =																
Balance (Available - Needs)																

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