

**SOUTH DAKOTA SUPPLEMENT TO AVAILABLE
NATIONAL CSP ENHANCEMENTS
Revised June 29, 2011**

Air Quality Job Sheets

Air Quality Enhancement Activity – AIR01 – Injecting or incorporating manure

- No additional state supplemental information at this time.

Air Quality Enhancement Activity – AIR02 – Nitrogen stabilizers for air emissions control

NITROGEN STABILIZER: A nitrogen stabilizer is a substance added to a fertilizer which extends the time the Nitrogen component of the fertilizer remains in the soil in the urea or ammoniacal forms.

NITRIFICATION INHIBITOR: A substance that inhibits the biological oxidation of ammoniacal nitrogen to nitrate nitrogen.

UREASE INHIBITOR: A substance which inhibits hydrolytic action on urea by the urease enzyme. When applied to soils the effect of the urease inhibitor is less urea Nitrogen lost by ammonia volatilization.

SOURCE: TFI, Official Publication 62, AAPFCO.

For this air quality enhancement, “nitrogen stabilizers” include:

1. Nitrification Stabilizer products containing:
 - a. DCD (dicyandiamide), Nitrapyrin or NBPT (N-(n-butyl) thio-phosphoric triamide)

Additional Documentation Requirements in SD include: Record the planned reduction of N volatilization (% losses) used for determining N source material application rates.

Air Quality Enhancement Activity – AIR03 – Replace burning of prunings, removals, and other crop residues with non-burning alternatives (chipping, grinding, shredding, mowing, or composting).

- No additional SD supplemental information. Utilize the national guidance worksheet.

Air Quality Enhancement Activity – AIR04 – Use drift-reducing nozzles, low pressures, lower boom height, application timing, drift reducing spray additives and other techniques to reduce pesticide spray drift.

Reducing Spray Drift: NDSU, 2001: <http://www.ag.ndsu.edu/pubs/ageng/machine/ae1210w.htm>
New Nozzles for Spray Drift Reduction: <http://ohioline.osu.edu/aex-fact/0523.html>
SDSU: Drift reduction nozzles FS919: <http://agbiopubs.sdstate.edu/articles/FS919.pdf>.

Air Quality Enhancement Activity – AIR06 – Replacing oil- and wood-fired heaters in orchards and vineyards.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Air Quality Enhancement Activity – AIR07 – GPS, targeted spray application (SmartSprayer), or other chemical application electronic control technology.

Requires the use of GPS data loggers that document site-specific compliance with all label requirements for drift mitigation. Examples of report printouts include:

Viper.pdf, located on the CSP SharePoint site at

<https://nrsc.sc.egov.usda.gov/central/sd/Programs/Programs/Forms/AllItems.aspx?RootFolder=%2fcentral%2fsd%2fPrograms%2fPrograms%2fConservation%20Stewardship%20Program%2fConservation%20Stewardship%20Program%20%2d2010%2d2%2fSD%20Supplemental%20Information&FolderCTID=&View=%7bB2D75920%2d7D30%2d4243%2d9C1E%2d56348EF78B72%7d>, or

Agleader – Smart Report <http://www.agleader.com/products/directcommand/>.

Animal Enhancement Job Sheets

Animal Enhancement Activity – ANM01 – Drainage water management for seasonal wildlife habitat.

During the noncropped season, the elevation of the drainage outlet shall be managed in a manner consistent with a habitat evaluation procedure that addresses targeted species (e.g., waterfowl or shorebirds). Types of landscapes that have the potential for flooding include floodplains of creeks, streams and rivers, and shorelines of lakes.

If FEMA flood insurance maps or USGS 1:24,000 maps identifying 1:100-year floodplain areas are available, use them. If not available, refer to the published soil survey. Flooding frequency for all map units can be found in the Soil and Water Features Table of the soil survey. All of the following flooding classes meet the 100-year floodplain criteria:

Rare – Flooding is unlikely but possible under unusual weather conditions; 1 to 5 percent chance of flooding in any year or nearly 1 to 5 times in 100 years.

Occasional – Flooding is expected infrequently under usual weather conditions; 5 to 50 percent chance of flooding in any year or >5 to 50 times in 100 years.

Frequent – Flooding is likely to occur often under usual weather conditions; more than a 50 percent chance of flooding in any year or more than 50 times in 100 years, but less than a 50 percent chance of flooding in all months in any year.

Very Frequent – Flooding is likely to occur very often under usual weather conditions; more than a 50 percent chance of flooding in all months of any year.

Animal Enhancement Activity – ANM02 – Defer crop production on temporary and seasonal wetlands.

The area is to be left undisturbed through the spring migratory bird season period of April 15 through June 15.

Animal Enhancement Activity – ANM03 – Incorporate native grasses and/or legumes into 15 percent or more of herbage dry matter productivity.

Native grass option: Stands including native grasses will only be used in the case of establishing a new stand. They will not be incorporated using interseeding methods. Seeding

mix must include sufficient amounts of native grasses and/or in combination with legumes so as to equal at least 15 percent of the composition by weight. Mixing native and introduced grasses requires that species are similar in phenology, morphology, and seedling vigor. Follow current SD technical guidance (Conservation Practice Standard (CPS) Pasture and Hayland Planting (512) and Range Technical Note No. 4) for establishing a new stand.

Legume option: Interseed up to 50 percent of a full seeding rate for the legume(s) following the Stand Enhancement (Section 3 of Range Technical Note No. 4) guidance in the current SD technical guidance (SD NRCS CPS Pasture and Hayland Planting and Range Technical Note No. 4). Again, seeding must include sufficient amounts of legumes so as to equal 15 percent or more of the composition by weight after establishment.

In addition, follow the SD NRCS CPS Prescribed Grazing (528) for management of the fields in the system.

Use the following grasses and/or legumes (native legumes, introduced legumes, or a combination of native and introduced legumes) from the list below:

alfalfa	Indiangrass	sideoats grama
alkali sacaton	intermediate	slender wheatgrass
alsike clover	wheatgrass*	(including bearded
American vetch	little bluestem	wheatgrass)
basin wildrye	mountain brome	strawberry clover
beardless wildrye	Nuttall's alkaligrass	sweetclover
big bluestem	prairie cordgrass	switchgrass
blue grama	prairie sandreed	tall wheatgrass*
Canada milkvetch	purple lovegrass	thickspike wheatgrass
Canada wildrye	purple prairie clover	Virginia wildrye
green needlegrass	red clover	western wheatgrass
hairy vetch	sand bluestem	white clover
Illinois bundleflower	sand lovegrass	white prairie clover
*introduced grass	sainfoin	

Animal Enhancement Activity – ANM04 – Extend existing filter strips for water quality protection and wildlife habitat.

Existing buffer (meeting NRCS standards) must be at least 20 feet wide.
The total buffer width (existing plus extended) shall not exceed 60 feet.

The following species are a list of acceptable RHIZOMATOUS grass species:

Indiangrass	western wheatgrass
bluestem (big and sand)	thickspike wheatgrass
prairie sandreed	prairie cordgrass
switchgrass	intermediate wheatgrass

[inland saltgrass and bluejoint reedgrass may be used but availability is extremely limited]

The following species are list of acceptable BUNCH grass species:

wildrye (Canada and Virginia)
needleandthread
green needlegrass

little bluestem
tall wheatgrass
alkali sacaton

[porcupine grass may be used but availability is extremely limited]

The mix must contain at least 5 species of which 2 species must be grasses (a minimum of 10 percent to constitute a species).

The mix must contain at least 90 percent rhizomatous grass species from the list above. The mix may contain 10 percent or less bunch grass species from the list above.

The mix may contain 10 percent or less native legumes from the following list:

American vetch
Canadian milkvetch
groundplum milkvetch

Illinois bundleflower
purple prairie clover
white prairie clover

No shrubs or trees are allowed.

The buffer can be widened on one or both sides if the participant controls both sides.

After establishment, filter areas should be mowed or grazed periodically (every two to five years) to maintain plant vigor. Mowing or grazing should be done outside of the primary nesting season. If livestock have access to the filter area, it must be fenced to control grazing. Where grazing is used for maintenance, grazing will be done with high animal densities for a short period of time, i.e., five to six animal units/acre, for three to five days.

The "Primary Nesting Season" is defined as May 1 through August 1 of any year (the fawning season is considered to coincide with the nesting season).

Animal Enhancement Activity – ANM05 – Extending riparian forest buffers for water quality protection and wildlife habitat.

Extend the buffer width for a total of 60 feet. The buffer width is measured horizontally on a line perpendicular to the water body beginning at the normal water line, bank-full elevation, or the top of the bank as determined locally.

The minimum buffer width is 35 feet for small floodplains or waterbodies with no floodplain. For larger floodplains, the minimum buffer width is 100 feet. If the floodplain is between 116 feet and 333 feet, then the minimum buffer width is 30 percent of the floodplain.

Majority is defined as greater than 50 percent. Sixty percent canopy closure is defined as sunlight "speckles the ground." Within SD, no fruit/nut bearing trees are capable of reaching 60 feet in height; therefore, this criterion does not apply to SD.

The following woody species are allowed:

Juneberry/Saskatoon
service-berry
shadblow serviceberry
leadplant
dwarf false indigo
silky dogwood
gray dogwood
redosier dogwood
wild plum
western sandcherry
chokecherry
smooth sumac

skunbush sumac
American black currant
golden/buffalo currant
Missouri gooseberry
prairie rose
Woods rose
elderberry
silver/Russet buffaloberry
western snowberry
arrowwood
nannyberry
American cranberry bush
boxelder

silver maple
common hackberry
downy hawthorn
green ash
honeylocust
black walnut
prairie crab apple
plains cottonwood
quaking aspen
bur oak
Bebb willow
peachleaf willow
Missouri River willow

If the participant controls both sides of the water course, the buffers must be widened on both sides. If the participant only controls one side of the water course, the buffer only needs to be widened on the side controlled.

The "Primary Nesting Season" is defined as May 1 through August 1 of any year (the fawning season is considered to coincide with the nesting season).

Animal Enhancement Activity – ANM06 – Extending existing riparian herbaceous cover for water quality protection and wildlife habitat.

Existing buffer (meeting NRCS standards) must be at least 20 feet wide.
The total buffer width (existing plus extended) shall not exceed 60 feet.

Minimum width per side shall be at least 35 feet and include the first bench of the floodplain or at least 2.5 times the stream width (based on the horizontal distance between bankfull elevations). The minimum width for other waterbodies shall be 35 feet.

The mix must contain at least 5 species of which 3 species must be native grass or sedge species and at least 1 native forb species (a minimum of 10 percent to constitute a species). At least 50 percent of each planting mix shall be rhizomatous or moderately rhizomatous grass or sedge species.

The following species are a list of acceptable RHIZOMATOUS grass species:

Indiangrass	prairie sandreed	thickspike wheatgrass
bluestem (big and sand)	switchgrass	prairie cordgrass
	western wheatgrass	intermediate wheatgrass

[Inland saltgrass and bluejoint reedgrass may be used but availability is extremely limited]

Use any suitable forb/legume species off of the following list:

American vetch	black samson	shell leaved penstemon
Canadian milkvetch	spotted Joe-pye weed	tall cinquefoil
groundplum milkvetch	boneset	yellow coneflower
Illinois bundleflower	blanket flower	grayhead coneflower
purple prairie clover	annual Gaillardia/firewheel	blackeyed Susan
white prairie clover	American licorice	compass plant
western yarrow	Maximilian sunflower	cup plant
fragrant giant hyssop	stiff sunflower	gray goldenrod
swamp milkweed	prairie sunflower	showy goldenrod
common milkweed	false sunflower	scarlet globemallow
butterfly milkweed	round-headed bush clover	heath aster
Canadian milkvetch	tall blazing star	prairie aster
groundplum milkvetch	Rocky Mountain blazing star	Geyer's aster
false boneset	dotted gayfeather	New England aster
showy partridgepea	thickspike gayfeather	tall meadow rue
Rocky Mountain bee plant	Lewis flax	prairie spiderwort
plains coreopsis	wild bergamont	blue vervain
white prairie clover	stiff goldenrod	hoary vervain
purple prairie clover	false gromwell	prairie ironweed
Illinois bundleflower	Indian breadroot scurfpea	culvers root
Canada tickclover	narrow leaved penstemon	American vetch
Illinois ticktrefoil/tickclover	fuzzy tongue penstemon	golden Alexander

No shrubs or trees are allowed.

If the participant controls both sides of the water course, the buffers must be widened on both sides. If the participant only controls one side of the water course, the buffer only needs to be widened on the side controlled.

The "Primary Nesting Season" is defined as May 1 through August 1 of any year (the fawning season is considered to coincide with the nesting season).

Animal Enhancement Activity - ANM07- Extending existing field borders for water quality protection and wildlife habitat.

Existing buffer (meeting NRCS standards) must be at least 20 feet wide.
The total buffer width (existing plus extended) shall not exceed 60 feet.

The following species are a list of acceptable RHIZOMATOUS grass species:

Indiangrass	prairie sandreed	thickspike wheatgrass
bluestem (big and sand)	switchgrass	prairie cordgrass
	western wheatgrass	intermediate wheatgrass

[Inland saltgrass and bluejoint reedgrass may be used but availability is extremely limited]

The following species are list of acceptable BUNCH grass species:

wildrye (Canada and Virginia)	little bluestem
needleandthread	tall wheatgrass
green needlegrass	alkali sacaton

[porcupine grass may be used but availability is extremely limited]

The mix must contain at least 5 species of which 2 species must be grasses (a minimum of 10 percent to constitute a species).

The mix must contain at least 90 percent rhizomatous grass species from the list above. The mix may contain 10 percent or less bunch grass species from the list above.

The mix may contain 10 percent or less native legumes from the following list:

American vetch	Illinois bundleflower
Canadian milkvetch	purple prairie clover
groundplum milkvetch	white prairie clover

No shrubs or trees are allowed.

The participant need only widen the field border on the side(s) they control.

The "Primary Nesting Season" is defined as May 1 through August 1 of any year (the fawning season is considered to coincide with the nesting season).

Animal Enhancement Activity – ANM08 – Improve the plant diversity and structure of non-cropped areas for wildlife food and habitat.

The "Primary Nesting Season" is defined as May 1 through August 1 of any year (the fawning season is considered to coincide with the nesting season).

Use any grass and/or forb/legume species from the list below:

Indian ricegrass	purple prairie clover	dotted gayfeather
big bluestem	white prairie clover	thickspike gayfeather
sand bluestem	western yarrow	Lewis flax
American sloughgrass	fragrant giant hyssop	wild bergamont
sideoats grama	swamp milkweed	stiff goldenrod
bluejoint reedgrass	common milkweed	false gromwell
prairie sandreed	butterfly milkweed	Indian breadroot scurfpea
inland saltgrass	Canadian milkvetch	narrow leaved penstemon
Canada wildrye	groundplum milkvetch	fuzzy tongue penstemon
Virginia wildrye	false boneset	shell leaved penstemon
purple lovegrass	showy partridgepea	tall cinquefoil
sand lovegrass	Rocky Mountain bee plant	yellow coneflower
American mannagrass	plains coreopsis	grayhead coneflower
needleandthread	white prairie clover	blackeyed Susan
porcupine grass	purple prairie clover	compass plant
green needlegrass	Illinois bundleflower	cup plant
switchgrass	Canada tickclover	gray goldenrod
western wheatgrass	Illinois ticktrefoil/tickclover	showy goldenrod
fowl bluegrass	black samson	scarlet globemallow
Nuttall alkaligrass	spotted Joe-pye weed	heath aster
little bluestem	boneset	prairie aster
Indiangrass	blanket flower	Geyer's aster
prairie cordgrass	annual Gaillardia/firewheel	New England aster
alkali sacaton	American licorice	tall meadow rue
sand dropseed	Maximilian sunflower	prairie spiderwort
prairie dropseed	stiff sunflower	blue vervain
American vetch	prairie sunflower	hoary vervain
Canadian milkvetch	false sunflower	prairie ironweed
groundplum milkvetch	round-headed bush clover	culvers root
Illinois bundleflower	tall blazing star	American vetch
	Rocky Mountain blazing star	golden Alexander
	star	

Use any woody species, from the list below, provided the species is native to the ecological site.

Juneberry/Saskatoon	skunbush sumac	silver maple
service-berry	American black currant	common hackberry
shadblow serviceberry	golden/buffalo currant	downy hawthorn
leadplant	Missouri gooseberry	green ash
dwarf false indigo	prairie rose	honeylocust
silky dogwood	Woods rose	black walnut
gray dogwood	elderberry	prairie crab apple
redosier dogwood	silver / Russet buffaloberry	plains cottonwood
wild plum	western snowberry	quaking aspen
western sandcherry	arrowwood	bur oak
chokecherry	nannyberry	Bebb willow
smooth sumac	American cranberry bush	peachleaf willow
	boxelder	Missouri River willow

Animal Enhancement Activity – ANM09 – Grazing management to improve wildlife habitat.

The "Primary Nesting Season" is defined as May 1 through August 1 of any year (the fawning season is considered to coincide with the nesting season).

Minimum vegetation heights in the grazing management plan will be according to the SD NRCS CPS Prescribed Grazing, Table 3.0.

Deferring one-third of grazing land each year CAN occur on the same field every year.

Animal Enhancement Activity – ANM10 – Harvest hay in a manner that allows wildlife to flush and escape.

The "Primary Nesting Season" is defined as May 1 through August 1 of any year (the fawning season is considered to coincide with the nesting season).

The "state specified minimum heights for the targeted species" varies based on the species. Biology Technical Note No. 15 provides species specific heights (between 5 inches for sharp-tailed grouse to 8 inches for prairie chicken to highly variable by songbird species.) For CSP purposes, use six inches.

If flushing bar is proposed, then see "Flushing Bar Design" document on the SD NRCS SharePoint site for further details:

<https://nrcs.sc.egov.usda.gov/central/sd/Programs/Programs/Forms/AllItems.aspx?RootFolder=%2fcentral%2fsd%2fPrograms%2fPrograms%2fConservation%20Stewardship%20Program%2fConservation%20Stewardship%20Program%20%2d2010%2d2%2fSD%20Supplemental%20Information&FolderCTID=&View=%7bB2D75920%2d7D30%2d4243%2d9C1E%2d56348EF78B72%7d>

If producers do not wish to use the Oklahoma flushing bar design, then they can make their own flushing bar provided they use something that hangs down to the ground and is sturdy enough to create the desired effect.

Animal Enhancement Activity – ANM11– Patch-burning to enhance wildlife habitat.

The "Primary Nesting Season" is defined as May 1 through August 1 of any year (the fawning season is considered to coincide with the nesting season).

Producers may patch burn 10 percent of their rangeland OR their pastureland; they do not need to burn 10 percent of their total grassland (rangeland and pastureland) acreage.

Must follow the SD NRCS CPS Prescribed Grazing (528) and the SD NRCS CPS Prescribed Burning (338).

Animal Enhancement Activity – ANM12 – Shallow water habitat.

Late winter through early summer water retention period varies due to weather/climate patterns and site conditions/location.

Surface water shall be present during the period of March 1 through June 30.

The SD NRCS CPS Shallow Water Development and Management (646) is a national standard.

Animal Enhancement Activity – ANM13 – Non-forested riparian zone enhancement for fish and wildlife.

Use only native "Wildlife Conservation Plant" List species.

A "well-vegetated" riparian zone includes a diverse mix of native species of which at least two grasses and two forbs. Two native shrubs may be included if the shrubs are native to the ecological site.

Minimum vegetation heights in the grazing management plan will be according to the SD NRCS Prescribed Grazing, Table 3.0.

Animal Enhancement Activity – ANM 14 – Riparian forest buffer, terrestrial, and aquatic wildlife habitat.

Use only native "Wildlife Conservation Plant" List species.

Maintain a "diversity" of tree, shrub and herbaceous species means a mix of native species of which at least one tree, two shrubs, two grasses, and two forbs native to the ecological site.

Minimum vegetation heights in the grazing management plan will be according to the SD NRCS CPS Prescribed Grazing, Table 3.0.

The minimum buffer width is 35 feet for small floodplains or waterbodies with no floodplain.

For larger floodplains, the minimum buffer width is 100 feet. If the floodplain is between 116 feet and 333 feet, then the minimum buffer width is 30 percent of the floodplain.

Animal Enhancement Activity – ANM15 – Forest stand improvement for wildlife habitat and soil quality.

This enhancement is only applicable to forest stands on forestland.

For SD forests, the following is required:

1. The minimum number of snags greater than 10 inches diameter at breast height is 2 per acre.
2. The minimum number of snags 4 to 10 inches diameter at breast height is 5 per acre.
3. The minimum number of dead and down logs is 5 per acre and these logs must be greater than 10 inches diameter.

"Den" trees, in SD, are not particularly applicable; however, snag trees can be used by cavity nesting critters (birds, bobcats, squirrels, and other small mammals).

Animal Enhancement Activity – ANM17 – Monitoring nutritional status of livestock using the NUTBAL PRO System.

Producers can use GAN Lab at Texas A&M (fecal samples) or they can have wet chemistry tests done at SDSU (forage samples). Fecal samples are generally considered to be more accurate because it comprises what the animals actually ate versus trying to collect the same forage that they are grazing.

Producers can attend training provided within state (TBA) in order to learn how to use NUTBAL Pro and do their own analysis or they can have the analysis done by the GAN Lab (if they have their samples analyzed there).

Animal Enhancement Activity –ANM18 – Retrofit watering facility for wildlife escape.

Bird boards do not constitute adequate escape and, therefore; do not count for this enhancement. Bird boards do not go to the bottom of the tank and do not attach to the side of the tank; therefore, wildlife cannot crawl out of the tank.

Refer to "Water for Wildlife: A Handbook for Ranchers and Range Managers," Bat Conservation International (BCI) and the wildlife escape latter design on the CSP SharePoint site:

<https://nracs.sc.egov.usda.gov/central/sd/Programs/Programs/Forms/AllItems.aspx?RootFolder=%2fcentral%2fsd%2fPrograms%2fPrograms%2fConservation%20Stewardship%20Program%2fConservation%20Stewardship%20Program%20%2d2010%2d2%2fSD%20Supplemental%20Information&FolderCTID=%26View=%27bB2D75920%2d7D30%2d4243%2d9C1E%2d56348EF78B72%7d>.

In the Water for Wildlife publication, on page 8, BCI has provided design and installation guidelines for the escape ramps. Nowhere in these guidelines do they state the escape ramps need to be anchored on the bottom; rather, they state, "be firmly secured to the trough rim so it will not be knocked loose by livestock or other animals." Furthermore, page 9 of the document does not include a single caption with the bottom of the ramp anchored.

Ramps are not required to be bolted down to the bottom of a watering facility. Certain ramps are made out of heavy enough material (concrete, rock, and mortar) that they do not need to

be separately weighted down. The producer could “weight down” the ramp from the underside in a fashion that is cheap and does not require a major construction effort (e.g., tie a concrete block to the underside of the ramp).

Animal Enhancement Activity – ANM19 – Wildlife corridors.

"B-List" species and all other invasive exotic vegetation must be controlled.

The following parameters are considered wildlife friendly fence for deer (white-tailed or mule), antelope and elk (refer to the Excel file titled “Fencing with Wildlife Considerations” for graphic depictions):

1. The top wire height above flat ground should be no more than 38 inches to 42 inches (deer and antelope).
2. The distance between top two strands of wire is at least 10 inches but preferably 12 inches (deer and antelope).
3. The top one or two wire strands of the fence are moveable (deer and antelope). This parameter is not required but is optional.
4. For antelope range, the following additional conditions apply: the bottom wire is smooth, movable and 10 inches to 18 inches above ground.
5. For elk range, the following additional conditions apply: attach a wooden rail, in lieu of top wire in select fence sections, no more than 38 inches high; bottom wire is no less than 16 inches above the ground (smooth or barbed wire); provide “let-down” fences. All wooden post and rail fencing is wildlife friendly fence. If the fence is electric then the bottom wire should provide at least 10 inches from the ground to the wire (e.g., 22-32-42 spacing) and the top wire should be no more than 38 inches (elk) to 42 inches (deer and antelope) high.

Animal Enhancement Activity – ANM20 – Silvopasture for wildlife habitat.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Animal Enhancement Activity – ANM 21 – Prairie restoration for grazing and wildlife habitat.

Follow SD NRCS CPS Range Planting (550) and Range Technical Note No. 4. Use Tables 6A and 6B and Range Technical Note No. 4 for adapted species but the minimum number of plant species must follow ANM21.

The "Primary Nesting Season" is defined as May 1 through August 1 of any year (the fawning season is considered to coincide with the nesting season).

There is no minimum acreage; however, consult Biology Technical Note No. 15 for grassland nesting species habitat requirements to give you an idea of what the minimum should be.

Animal Enhancement Activity – ANM 22 – Restoration and management of rare or declining habitats.

The plant communities to be addressed using this enhancement are tall grass prairie and mixed grass prairie.

The tall grass prairie ecoregion includes MLRAs 102A, 102B, 102C, and 56.

The mixed grass prairie ecoregion covers all of the remaining MLRAs except 62. Follow SD NRCS CPS Restoration and Management of Rare or Declining Habitats (643) and Range Technical Note No. 4.

The "Primary Nesting Season" is defined as May 1 through August 1 of any year (the fawning season is considered to coincide with the nesting season).

Animal Enhancement Activity – ANM 23 – Multi-species native perennials for biomass/wildlife habitat.

The harvested biomass must be used for energy production and may not be fed to livestock or sold as feed or bedding.

A sample of Species of Greatest Conservation Need from the (SD) State Wildlife Action Plan is below.

1. Grassland birds of prey: Northern goshawk, ferruginous hawk, and burrowing owl.
2. Grassland game birds: greater sage-grouse and greater prairie-chicken.
3. Grassland nesting songbirds: Sprague's pipit, lark bunting, Baird's sparrow, Le Conte's sparrow, chestnut-collared longspur, and white-winged junco.
4. Other: willet, long-billed curlew, whooping crane, marbled godwit, and Wilson's phalarope

Example plant species suitable for biomass production include but are not limited to: prairie sandreed, big bluestem, switchgrass, and prairie cordgrass.

A minimum of two species will be selected – follow guidelines contained in Range Technical Note 4.

The "Primary Nesting Season" is defined as May 1 through August 1 of any year (the fawning season is considered to coincide with the nesting season).

Animal Enhancement Activity ANM24 – Upland forest wildlife structures.

Refer to "Managing Forests for Fish and Wildlife, Fish and Wildlife Habitat Management Leaflet Number 18 (NRCS Wildlife Habitat Management Institute 2002), and "Artificial Nesting Structures, Fish and Wildlife Habitat Management Leaflet Number 20 (NRCS Wildlife Habitat Management Institute 2004), on the SD NRCS SharePoint at:

<https://nrsc.sc.egov.usda.gov/central/sd/Programs/Programs/Forms/AllItems.aspx?RootFolder=%2fcentral%2fsd%2fPrograms%2fPrograms%2fConservation%20Stewardship%20Program%2fConservation%20Stewardship%20Program%20%2d2010%2d2%2fSD%20Supplemental%20Information&FolderCTID=&View=%7bB2D75920%2d7D30%2d4243%2d9C1E%2d56348EF78B72%7d>.

Animal Enhancement Activity – ANM25 – Stockpiling of forages to extend the grazing season.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Animal Enhancement Activity – ANM26 – Managing calving to coincide with forage availability.

For the term “good quality pasture,” the assumption is that plants should be at least at 30 percent in relation to the average growth curve. This equates to about May 15. Peak lactation occurs about 45 days post partum, so the good quality pasture should be available to cattle at that time (when the demand is highest on the breeding females). The enhancement calls for a 90-day calving period maximum, so to “center” that calving period around the peak lactation point, the calving period should start on or after 45 days before the good quality pasture is available. This would mean that the calving period should start on or after April 1.

To meet the criteria of the enhancement, 50 percent of the breeding females will be required to calve on or after April 1 by the third year of the contract, and 75 percent of the females will be required to calve on or after April 1 by the fourth year of the contract.

Animal Enhancement Activity – ANM27 – Wildlife friendly fencing.

The following parameters are considered wildlife friendly fence for deer (white-tailed or mule), antelope and elk (refer to the Excel file titled “Fencing with Wildlife Considerations” for graphic depictions):

1. The top wire height above flat ground should be no more than 38 inches to 42 inches (deer and antelope).
2. The distance between top two strands of wire is at least 10 inches but preferably 12 inches (deer and antelope).
3. The top one or two wire strands of the fence are moveable (deer and antelope). This parameter is not required but is optional.
4. For antelope range, the following additional conditions apply: the bottom wire is smooth, movable and 10 inches to 18 inches above ground.
5. For elk range, the following additional conditions apply: attach a wooden rail, in lieu of top wire in select fence sections, no more than 38 inches high; bottom wire is no less than 16 inches above the ground (smooth or barbed wire); provide “letdown” fences. All wooden post and rail fencing is wildlife friendly fence. If the fence is electric then the bottom wire should provide at least 10 inches from the ground to the wire (e.g. 22-32-42 spacing) and the top wire should be no more than 38 inches (elk) to 42 inches (deer and antelope) high.

For information concerning existing fence openings and crossings (Criteria 2) consult pages 2-3 (highlighted yellow text) in “Fencing Guidelines for Wildlife.”

For information concerning existing fence visibility and marking (Criteria 3) consult the documents titled “Fence Marking Factsheet” and “Fence Marking Lessons Learned.” Colored reflective tape should be used.

Animal Enhancement Activity – ANM28 – Aquatic organism passage barrier removal.

Species (aquatic) of regional concern are any fish species identified in the threatened and endangered species portion of the Planning Tool (GIS).

Animal Enhancement Activity – ANM29 – On-farm forage based grazing system

All protein and energy needs for the livestock (all age classes) will be from on-farm sources (not purchased off-farm). Mineral and salt supplements can be purchased off-farm.

Animal Enhancement Activity – ANM30 – Ultra high density grazing system to improve soil quality

Energy Job Sheets

Energy Enhancement Activity – ENR01 – Fuel use reduction for field operations

Energy Enhancement Activity – ENR03 – Pumping plant powered by renewable energy.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Energy Enhancement Activity – ENR05 – Locally grown and marketed farm products.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Energy Enhancement Activity – ENR06 – Upgrade of Old Diesel Powered Pumping Plants.

Old diesel engine must be Tier 1, (no emission controls.) Options include electric-drive pumping plants or, if electric-drive options are not feasible because electric power is not available, high efficiency diesel-powered pumping plants may be used.

Requirements:

- Pumping Plant Evaluation. If unfamiliar with evaluating contact Field Support Office Engineer.
- If used for irrigation, an **Irrigation Water Management Plan** is required. Include practice standard **Irrigation Water Management-- 449**
- Diesel replacement must meet Environmental Protection Agency (EPA) Tier 3 or 4 emission standard. Ask for documentation from supplier. **Spill control and containment plan** must be in place. Note: South Dakota Natural Resources Conservation Service or South Dakota Department of Environment and Natural Resources have no standards. For EPA template go to http://www.anr.state.vt.us/DEC/ead/sbcap/pdf/TierI_QF_SPCC%20Template2010.pdf
- Old diesel made inoperable following practice standard **Combustion System Improvement – 372** <http://www.nrcs.usda.gov/technical/standards/nhcp.html>.

Requires verification (photos, receipts, etc.,) of system upgrade and disabling of old engine.

Energy Enhancement Activity – ENR07 – On-Farm Energy Audit.

Conduct an on farm Type 2 energy audit according American Society of Agricultural and Biological Engineers (ASABE) Standard S612

<http://asae.frymulti.com/azdez.asp?JID=2&AID=28041&CID=s2000&T=2> and implement findings according to criteria:

- conducted for all farming operations
- implement recommendations that apply to the CSP land uses and:
 - payback of no more than two years, and
 - estimated cost no more than 40 percent of the annual energy costs for the activity and
 - applies to the following activities ASABE standard
 - a. Other motors/pumps
 - b. Cultural Practices
 - c. Water Management
 - d. Irrigation

Energy Enhancement Activity – ENR08 – Using nitrogen provided by legumes, animal manure, and compost to supply 100 percent of the nitrogen needs.

- Soil, manure, and compost tested by Land Grant University, such as SDSU
- Follow SDSU EC 750 **Fertilizer Recommendations Guide**
<http://www.sdstate.edu/ps/service-labs-orgs/soil-test-lab/loader.cfm?csModule=security/getfile&PageID=788470> for legume credits and manure and compost application rates
- **Nutrient Management Standard (590)** required for manure application to high Phosphate soils
- **Cover crops** on low residue fields
- Enhancement not meant for removal of high nitrogen use crops (corn, etc.,) from rotation.

Energy Enhancement Activity – ENR09 – Variable Frequency Drive Electric Motors.

- Field support office engineers can help with sizing requirements, etc.

Plant Enhancement Job Sheets

Plant Enhancement Activity – PLT01 – Establish pollinator habitat.

Use only native "Wildlife Conservation Plant" List species.

Refer to Range Technical Note No. 4, Table 3, for bloom periods for "A-List" forb and shrub species.

April through October is the general growing season/bloom period. For species that can bloom in multiple months, these species may be counted more than once.

The applicant can pick the land use (cropland, pastureland, rangeland, or forest) to base the ½ acre per 40 acres on. The applicant does not have to seed ½ acre for every 40 acres of different land use.

Site conditions and location will dictate whether or not flowering species bloom in April.

Acceptable pollinator tree species and bloom periods: Boxelder - early (April); Silver Maple - early (April); Common Hackberry - early (May); Downy Hawthorn - early (May); Green Ash - early (April); Honeylocust - Mid (June); Black Walnut - Early (May); Prairie Crab Apple - early (May); Plains Cottonwood - early (April); Bur Oak - early (May); Peachleaf Willow - early (April-May); and Missouri River willow - early (April-May)

Plant Enhancement Activity – PLT02 – Monitoring key grazing areas to improve grazing management.

Follow SD NRCS CPS Prescribed Burning and refer to Range Technical Note No. 8.

Plant Enhancement Activity – PLT03 – Forest stand improvement pre-treating vegetation and fuels.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Plant Enhancement Activity – PLT04 – Forest stand improvement, prescribed burning.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Plant Enhancement Activity – PLT05 - Multi-story cropping, sustainable management of nontimber forest plants.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Plant Enhancement Activity – PLT06 – Renovation of a windbreak, shelter belt or hedgerow for wildlife habitat.

Use only "Wildlife Conservation Plant" List shrub and/or tree species (with the exception of Hardy apricot and Siberian crabapple which may be used).

The existing windbreak/shelterbelt must be three rows or greater to be considered. However, single or multiple rows of Siberian elm and/or Russian olive may be removed and replaced with "A-List" trees or shrubs to minimum of three rows.

Windbreaks less than three rows may be expanded to three rows or greater.

Leeward row must contain native suckering shrub species. Fabric cannot be used on suckering shrubs (see Shrub Clump Wildlife Plantings Fact Sheet for list of suckering shrubs).

Existing windbreaks adjacent (within 150 ft.) to wetlands are not eligible to be renovated except to remove trees with a height expectancy of greater than 20 ft.

Existing windbreaks within native grassland are not eligible to be renovated but can be removed.

Existing windbreaks adjacent to native grassland are not eligible unless one of the follow enhancements is completed:

1. All tall trees greater than 20 ft. height expectancy are removed from the existing planting or
2. A grassland buffer (min. 150 ft.) is installed between the native grassland and the first row of the shelterbelt (may require relocation of trees/shrubs to accomplish, native grass cannot be destroyed to create buffer.

Wildlife species benefited include: white-tailed deer, pheasant, turkey, and mourning dove. Grassland nesting songbirds will only benefit when existing windbreaks/shelterbelts are removed from grasslands.

Plant Enhancement Activity – PLT07 – Hardwood crop tree release.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Plant Enhancement Activity – PLT08 – Habitat development for beneficial insects for pest management.

For additional information please contact:

Jonathan Lundgren, Research Entomologist, Agriculture Research Station, (605) 693-5211, Jonathan.Lundgren@ars.usda.gov.

Plant Enhancement Activity – PLT10 – Intensive management of rotational grazing enhancement.

Eight or more pastures will be included in the system and no occupation period will exceed 10 consecutive days (these parameters apply during the growing season of April 1 through October 31). Follow SD NRCS CPS Prescribed Grazing.

Plant Enhancement Activity – PLT11 – Conifer crop tree release.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Plant Enhancement Activity – PLT12 – Patch harvesting to improve degraded hardwood stands.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Plant Enhancement Activity – PLT13 – Forest Stand Improvement for wildfire reduction.

Plant Enhancement Activity – PLT14 – Alley cropping establishment for wildlife and beneficial insect habitat.

Not likely to be used in SD, therefore specific species are not referenced in this supplement. Should this enhancement be used the following information applies:

Refer to SD-FS-59 (Wildlife Food Plots) for wildlife friendly legumes and cover crops, and shrubs.

Refer to SD-FS-61 (Shrub Clump Wildlife Plantings) for wildlife friendly shrubs.

Refer to Biology Technical Note Number 15 for blooming periods and wildlife friendly trees and shrubs.

Soil Erosion Job Sheets

Soil Erosion Enhancement Activity – SOE01 – Continuous no-till with high residue.

High Residue

barley
corn
millet
oats
rye
grain sorghum
wheat (all)

Low Residue

buckwheat
canola
corn silage
dry beans
peas
flax
lentil
potatoes
rape
safflower
sorghum silage
soybean
sunflower

Note: Further definition – All annually planted crops that are hayed, grazed, or ensiled will be considered low residue crops.

Soil Erosion Enhancement Activity – SOE02 – Protection of cultural resource.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Soil Erosion Enhancement Activity – SOE03 – Continuous no-till (organic system).

High Residue

barley
corn
millet
oats
rye
grain sorghum
wheat (all)

Low Residue

buckwheat
canola
corn silage
dry beans
peas
flax
lentil
potatoes
rape
safflower
sorghum silage
soybean
sunflower

Note: Further definition – All annually planted crops that are hayed, grazed, or ensiled will be considered low residue crops.

Soil Quality Job Sheets

Soil Quality Enhancement Activity – SQL01 – Controlled traffic system.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Soil Quality Enhancement Activity – SQL02 – Continuous cover crops.

Refer to the SD NRCS CPS Cover Crop (340) – Table 1: “Cover Crop – Common Species and Properties” for species recommendations. Specific NRCS cover crop recommendations will be based on the identified purposes and resource needs as discussed with the client. Rotations that include crops that are typically harvested after October 10 will be ineligible for this enhancement.

Soil Quality Enhancement Activity – SQL03 – Drainage water management for nutrient, pathogen, or pesticide reduction.

Types of landscapes that have the potential for flooding include floodplains of creeks, streams, and rivers and shorelines of lakes.

If FEMA flood insurance maps or USGS 1:24,000 maps identifying 1:100 year floodplain areas are available, use them. If not available, refer to the published soil survey. Flooding frequency for all map units can be found in the Soil and Water Features Table of the soil survey. All of the following flooding classes meet the 100-year floodplain criteria:

Rare – Flooding is unlikely but possible under unusual weather conditions; 1 to 5 percent chance of flooding in any year or nearly 1 to 5 times in 100 years.

Occasional – Flooding is expected infrequently under usual weather conditions; 5 to 50 percent chance of flooding in any year or >5 to 50 times in 100 years.

Frequent – Flooding is likely to occur often under usual weather conditions; more than a 50 percent chance of flooding in any year or more than 50 times in 100 years but less than a 50 percent chance of flooding in all months in any year.

Very Frequent – Flooding is likely to occur very often under usual weather conditions; more than a 50 percent chance of flooding in all months of any year.

Soil Quality Enhancement Activity – SQL04 – Use of cover crop mixes.

Refer to the SD NRCS CPS Cover Crop – Table 1: “Cover Crop – Common Species and Properties” for species recommendations. Specific NRCS cover crop mixture recommendations will be based on the identified purposes and resource needs as discussed with the client.

Resource Concerns	Mix	Percent
Grazing	Lentil	30%
	Turnip	30%
	Oat	30%
	Radish	10%
Salinity	Sugar Beet	50%
	Barley	50%
Salinity	Sugar Beet	60%
	Canola/Rape	40%
Salinity	Barley	40%
	Canola/Rape	30%
	Sugar Beet	30%
Compaction	Radish	60%
	Lentil	30%
	Canola/Rape	10%
Warm Season Grazing	Millet	60%
	Cowpeas	40%
Grazing/Compaction	Cowpeas	20%
	Pearl Millet	20%
	Sorghum-Sudan	20%
	Turnip	20%
	Radish	20%
Grazing	Forage Pea	40%
	Rape	30%
	Turnip	30%
Residue Cycling	Canola/Rape	50%
	Lentil	50%
Residue Cycling/Compaction	Radish	40%
	Canola/Rape	30%
	Lentil	30%
Spring Moisture Utilization/N Fixation	Hairy Vetch	50%
	Rye	50%
Spring Moisture Utilization/N Fixation	Hairy Vetch	50%
	Triticale	50%
Spring Moisture Utilization	Canola/Rape	50%
	Rye	50%

Soil Quality Enhancement Activity – SQL05 – Use of deep rooted crops to break up soil compaction.

Refer to the SD NRCS CPS Cover Crop – Table 1: “Cover Crop – Common Species and Properties” for species recommendations. The following crops are rated “Good” and “Fair” for deep rooted species.

Good	Fair	
alfalfa	barley	sunflower
canola	chickling vetch	sweet clover
Ethiopian cabbage	common vetch	tall wheatgrass
grain and forage sorghum	cowpea	triticale
kale	crimson clover	winter rye
radish	hairy vetch	
rapeseed	millet	
sudangrass, sudangrass- sorghum hybrid	mustard, oriental or brown	
sugar beet	mustard, tame yellow	
turnip	oat	
winter camelina	safflower	
	spring rye	

Soil Quality Enhancement Activity – SQL06 – Conversion of cropped land to grass-based agriculture for biomass or forage production and wildlife habitat.

Use the Seeding Tool and follow SD NRCS CPSs Pasture and Hay Planting and Range Planting and Range Technical Note No. 4.

Soil Quality Enhancement Activity – SQL07 – Forest stand improvement for soil quality.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Soil Quality Enhancement Activity – SQL08 – Intercropping to improve soil quality and increase biodiversity

- No additional South Dakota supplemental information. Utilize the national guidance worksheet.

Water Quality Job Sheets

Water Quality Enhancement Activity – WQL01 – Biological suppression and other nonchemical techniques to manage brush, herbaceous weeds, and invasive species.

Flea beetles can be used for leafy spurge. Sheep can be used for leafy spurge and other weedy forbs. Cattle can be used if properly trained or otherwise enticed to consume the targeted weeds. Follow the SD NRCS CPS Prescribed Grazing when sheep or cattle are used.

Water Quality Enhancement Activity – WQL03 – Rotation of supplement and feeding areas.

Follow criteria listed in the enhancement.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Water Quality Enhancement Activity – WQL04 – Plant tissue testing and analysis to improve nitrogen management.

The tissue testing and corn stalk test procedure as well as recommendations will be consistent with SDSU or Iowa State University (ISU) guidance. Corn leaf tissue testing procedure will be consistent with the University of Nebraska (NE) published guidance.

SDSU Plant sampling worksheet <https://www.sdstate.edu/ps/soil-lab/plant-analysis.cfm>.

ISU Corn Stalk test sample worksheet <http://www.agron.iastate.edu/soiltesting/CSN.pdf>.

ISU Nitrogen fertilizer recommendations <http://www.agron.iastate.edu/soiltesting/pm1714.pdf>.

Using a Chlorophyll meter to improve nitrogen management
<http://elkhorn.unl.edu/epublic/live/g1632/build/g1632.pdf>.

Water Quality Enhancement Activity – WQL05 – Apply nutrients no more than 30 days prior to planned planting date.

No additional SD supplemental information. Utilize the national guidance worksheet

Water Quality Enhancement Activity – WQL06 – Apply controlled release nitrogen fertilizer.

Slow or controlled release fertilizer

A fertilizer containing Nitrogen in a form which delays its availability for plant uptake and use after application, or which extends its availability to the plant significantly longer than a reference “rapidly available nutrient fertilizer” such as ammonium nitrate or urea, ammonium phosphate or potassium chloride.

Such delay of initial availability or extended time of continued availability may occur by a variety of mechanisms.

These include controlled water solubility of the material (by semi-permeable coatings, occlusion, or by inherent water insolubility of polymers, natural nitrogenous organics, protein materials, or other chemical forms) or by slow hydrolysis of water soluble low molecular weight compounds.

Source: TFI, Official Publication 62: AAPFCO,

For purposes of this water quality enhancement, slow or controlled Nitrogen source materials include:

- Materials with low solubility in water due to a complex molecular structure which releases nitrogen through microbial decomposition or reduced solubility.
- Materials that release Nitrogen through a membrane which may or may not itself be soluble (encapsulation).
- Materials that are incorporated into a matrix which itself may be coated.
- Fertilizers taken into an absorbent material in which availability of nutrients is decreased through occlusion.

Additional Documentation Requirements in SD include: Record the planned cumulative % N availability (release) of applied slow or controlled N source materials for each of the 6 months following application dates.

Water Quality Enhancement Activity – WQL07 – Split nitrogen applications, 50 percent after crops/pasture emerge/green up.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Water Quality and Air Quality Enhancement Activity – WQL08 – Split applications of nitrogen based on a PSNT or other crop-based indicators.

The PSNT testing and recommendations will be consistent with guidance available from ISU. Corn leaf tissue testing procedure will be consistent with the University of NE published guidance.

ISU Nitrogen fertilizer recommendations <http://www.agron.iastate.edu/soiltesting/pm1714.pdf>.

ISU PSNT sample worksheet <http://www.agron.iastate.edu/soiltesting/LSN.pdf>.

Using a Chlorophyll meter to improve nitrogen management
<http://elkhorn.unl.edu/epublic/live/g1632/build/g1632.pdf>.

Water Quality Enhancement Activity – WQL09 – Apply phosphorous fertilizer below the soil surface.

No additional SD supplemental information. Utilize the national guidance worksheet

Water Quality Enhancement Activity– WQL10 – Plant a cover crop that will scavenge residual nitrogen.

The following crops have a rating of “Very Good” for scavenging nitrogen from Chart 2 – Performance & Roles, page 67, in *“Managing Cover Crops Profitably, 3rd Edition”* (Sarrantonio, 1988). Preliminary research, in SD, shows that the cover crop will need to produce at least 2,000 lbs. of biomass to gain the nitrogen credit for the scavenged nitrogen. In most cases, the cover crop will need to be planted in early August to produce the 2,000 lbs. of biomass.

annual ryegrass	sorghum-sudan
barley	mustards
oats	radish
rye	rapeseed (canola)

The SDSU Fertilizer Recommendations Guide can be found at <http://plantsci.sdstate.edu/soiltest/>.

Water Quality Enhancement Activity – WQL11 – Precision application technology to apply nutrients.

Guidance: Item 3 under the Criteria Section of the Enhancement states:

3) Base nitrogen application rates on a real time analysis of crop nitrogen needs.

Examples include in season aerial photography and in field equipment based chlorophyll sensors.

Further guidance from the national office would allow spring soil sampling 0-24 inch as an acceptable real time analysis of crop nitrogen needs for this enhancement in SD.

Water Quality Enhancement Activity – WQL12 - Managing livestock access to water bodies/courses.

Waterbodies/Courses: Ponds, lakes, dugouts, permanent wetlands, and streams (blue-line streams on topographic maps if water is generally present in the water course) would all qualify.

Management Options: Anyone (or a combination of two or more) of the structures or management activities listed under number 3 of the criteria in the enhancement would be sufficient as long as the planner considers what is “necessary” in the particular situation to address the concern. This enhancement would not require all the items mentioned but whatever it would take to protect or enhance the waterbodies. For the purposes of this enhancement, criteria 3, d), “riparian grazing management strategies” will be those pastures that include deferment from July 1 through September 30 in all years of the contract.

Documentation: Since a written grazing management plan is required by the enhancement, the guidelines contained in the SD NRCS CPS Prescribed Grazing must be followed.

Units: This is a system based enhancement and the units are the acres of the field(s) that contains the waterbody/course.

Water Quality Enhancement Activity – WQL13 – High level integrated pest management to reduce pesticide environmental risk.

(Note: the documentation required for this enhancement requires scouting reports, as well as, an environment risk assessment for water quality (PSS or WINPST).

Water Quality Enhancement Activity – WQL14 – Land application of treated manure.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Water Quality Enhancement Activity – WQL15 – Reduce the concentration of nutrients on farm by limiting the amount of feed and fertilizer brought on livestock farms.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Water Quality Enhancement Activity – WQL16 – Use of legume cover crops as a nitrogen source.

The legume cover crop needs to provide 50 to 100 lbs. of nitrogen. This is a change from the 75 lbs. minimum of nitrogen in the last sign-up. The SDSU Fertilizer Recommendations Guide can be found at <http://plantsci.sdstate.edu/soiltest/>.

Water Quality Enhancement Activity – WQL17 – Use of non-chemical methods to kill cover crops.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Water Quality Enhancement Activity – WQL18 – Non-chemical pest management for livestock.

Rotational grazing has been shown to help reduce internal parasites. Fecal analysis of calves (young livestock) will be required to insure that pest load is being diminished.

Water Quality Enhancement Activity – WQL19 – Transition to organic grazing systems.

Follow guidelines contained in the CPSs Prescribed Grazing, Watering Facility (614), Pipeline (516), Fence (382), and other related CPSs

Water Quality Enhancement Activity – WQL20 – Transition to organic cropping systems.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Water Quality Enhancement Activity – WQL21 – Integrated pest management for organic farming.

(Note: the documentation required for this enhancement requires scouting reports, as well as, an environment risk assessment for water quality if pesticides are applied (PSS or WINPST).

Water Quality Enhancement Activity – WQL22 – On farm composting of farm organic waste.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Water Quality Enhancement Activity – WQL23 – Protection of sensitive areas on winter grazing land.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Water Quantity Job Sheets

Water Quantity Enhancement Activity – WQT01 – Irrigation system automation.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Water Quantity Enhancement Activity – WQT02 – Mulching for moisture conservation.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Water Quantity Enhancement Activity – WQT03 – Irrigation pumping plant evaluation.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Water Quantity Enhancement Activity – WQT04 – Regional weather networks for irrigation scheduling.

Statewide there are 37 automated weather stations gathering the information. The site is located at the following Web site: http://climate.sdstate.edu/climate_site/climate.htm.

To get to the Crop ET information you will click on the page called “Crop Water Use (ET).”

Producers will be able to print reports from this site to document their use of the information in scheduling their water management plan. Since the Web site is free and no subscription is necessary, these reports, along with the water management plan showing the use of the crop ET data, will suffice for the enhancement documentation.

Water Quantity Enhancement Activity – WQT05 – Remote monitoring and notification of irrigation pumping plant operation.

- No additional SD supplemental information. Utilize the national guidance worksheet.

Water Quantity Enhancement Activity – WQT06 – Conversion to non-irrigated crop production

Applicable to all irrigated lands meeting criteria.

No requirement to cap well.

Special Project Job Sheets

FRD01 – On Farm Research and Demonstration.

No projects identified at this time.

FPP02 – On-Farm Pilot Project.

No projects identified at this time.

**Resource Conserving Crop Rotation (RCCR)
Supplemental Payment Activity – CCR99**

South Dakota Resource Conserving Crops List			
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Perennial Grass ¹	Perennial/Biennial Legume ²	Perennial Grass and Perennial/Biennial Legume Mix ³	Cover Crops ⁴
big bluestem	alfalfa	alfalfa	alfalfa
blue grama	alsike clover	alsike clover	alsike clover
Canada wildrye	birdsfoot trefoil	big bluestem	annual Oregon ryegrass
creeping foxtail	hairy vetch	birdsfoot trefoil	barley
crested wheatgrass	red clover	blue grama	chickling vetch
green needlegrass	sweet clover	canada wildrye	common vetch
Indiangrass	white clover	creeping foxtail	corn
intermediate wheatgrass		crested wheatgrass	cowpea
Kentucky bluegrass		green needlegrass	crimson clover
little bluestem		hairy vetch	grain and forage sorghum
meadow bromegrass		Indiangrass	hairy vetch
orchardgrass		intermediate wheatgrass	lentil
prairie sandreed		Kentucky bluegrass	millet
pubescent wheatgrass		little bluestem	oat
reed canarygrass		meadow bromegrass	pea
Russian wildrye		orchardgrass	red clover
sideoat grama		prairie sandreed	soybean
slender wheatgrass		pubescent wheatgrass	spring rye or spring wheat sudangrass, sudan-sorghum hyb.
smooth bromegrass		red clover	sweet clover
switchgrass		reed canarygrass	tall wheatgrass
tall wheatgrass		Russian wildrye	teff grass
timothy		sideoat grama	triticale
western wheatgrass		slender wheatgrass	white clover
		smooth bromegrass	winter rye or winter wheat
		sweet clover	
		switchgrass	
		tall wheatgrass	
		timothy	
		western wheatgrass	

Resource-conserving crop means a crop that is one of the following:

¹ A perennial grass.

² A legume grown for use as forage, seed for planting, or green manure.

³ A legume-grass mixture.

⁴ A small grain grown in combination with a grass or legume green manure crop whether inter-seeded or planted in rotation.