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**LANDSMART® FOR RANGELANDS**  
**RANCH PLAN**  
**[ADD RANCH NAME]**

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Prepared for: \_\_\_\_\_

Prepared by: \_\_\_\_\_

Date: \_\_\_\_\_

Version 2.0  
October 2017



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## 1. INTRODUCTION

This LandSmart® for Rangelands template, in conjunction with workshops and one-on-one assistance (as needed), is intended to guide you through the process of inventorying property features such as paddocks, pastures, and waterways and roadways, documenting conservation practices that you currently use, and helping you to select additional conservation practices, when needed, to protect water quality, water quantity, and other natural resources. The resulting plan is intended to be a working document to record your decisions and your progress. The plan will help you to identify locations where photo monitoring should be conducted to document your use of conservation practices. These photos along with records you keep can help you evaluate how various conservation practices work within your ranch and, if needed, they can help you demonstrate to others the steps you have taken to protect and improve natural resources. Lastly, the plan will provide you with an easy to reference summary of conservation practices that you use and that you intend to implement.

The LandSmart® for Rangelands Ranch Plan Template consists of several worksheets that you will complete. The top of each worksheet has information and/or directions, and as you work your way through the worksheet additional instructions may be provided based upon your responses to some questions. The questions and follow-up instructions are designed to help you identify which areas of your property could receive the most benefit from implementation of additional conservation practices. Potential conservation practices to implement reference the Natural Resource Conservation Service conservation practice standards. The worksheets also include tables to help you document existing and planned practices. You will be able to complete some of the worksheets quite easily. Other worksheets will take more time and will involve some field assessment, perhaps even some assistance from a resource professional (NRCS, RCD, or other professional).

This template purposefully covers topics of interest to most rangeland managers and has been developed with a focus on water quality. The LandSmart® for Rangeland template builds upon the “Ranch Water Quality Plan, Compliance Monitoring & Annual Certification Templates” developed by the University of California Cooperative Extension (UCCE) for the Conditional Waiver of Waste Discharge Requirements for Grazing Operations in the Napa River & Sonoma Creek Watersheds. There are many sections where, if you have already completed the UCCE Plan, you can attach the completed plan and skip those sections here. An asterisk (\*) will indicate which sections of this template are covered in the UCCE plan. Other sections of the LandSmart® Plan are additional to the information in the UCCE Plan, and those should be completed here.

You may have additional conservation and land management interests beyond water quality regulations. The LandSmart® for Rangelands program is intended to help you with those

interests as well. If you need assistance to meet your land management and conservation goals, whether or not the topic is covered in this ranch plan template, please do not hesitate to contact your local Resource Conservation District (RCD) office.

**Contact Information**

NRCS Napa Field Office: 707-252-4189  
NRCS Petaluma Field Office: 707-794-1242

Napa County RCD: 707-252-4188  
Sonoma RCD : 707-569-1448  
Mendocino County RCD: 707-462-3664  
Gold Ridge RCD: 707-823-5244

**2. FUTURE WATER QUALITY/CONSERVATION PROJECTS**

Use this table to track the implementation of actions that you identified in ranch plan section that follow.

List all future potential water quality concerns on the ranch/farm with the expected pollutants from each. A concern does not indicate that livestock grazing or current management caused it. This includes locations where your current maintenance prevents problems such as maintaining ranch roads following winter storms. Consider multiple options for fixing water quality concerns such as implementing new practices, and changing management or maintenance routines. Estimate the approximate cost of each option as well as the amount of time needed to conduct maintenance. Give each project a priority, relative to other potential projects, indicating preferred order implementing the project. Assignment of priority recognizes that the availability of financial and technical assistance determines when work is done. List the steps taken to plan for the project including participation in technical & financial assistance programs (ranch visits, meetings, applications, expected contract dates, etc). Use additional sheets if needed.

Water Quality Concern		Location <i>(pasture/ field)</i>	Options for Maintenance, Management Changes, or Practice(s) to Implement <i>(with NRCS Practice Names and Numbers, if applicable)</i>	Estimate Cost of Each Option	Priority	Implementation Planning
#	Describe					

**3. PROPERTY DESCRIPTION**

**3.1 PROPERTY INFORMATION**

**Basic Information\***

Ranch/Farm Location	
Ranch/Farm Name:	
Ranch Physical Address:	
Mailing Address, or P.O. Box:	City, State, Zip Code:
List all Assessor Parcel Numbers (APNs) or legal description (Township, Range, Sections) for each parcel, pasture, or silage field included in this plan:	County:
	<b>What Water Board regon(s) is the ranch/farm in?</b> <input type="checkbox"/> R1 (North Coast) <input type="checkbox"/> R2 (San Francisco Bay) <input type="checkbox"/> R3 (Central Coast) <input type="checkbox"/> R4 (Los Angeles) <input type="checkbox"/> R5 (Central Valley) <input type="checkbox"/> R6 (Lahontan) <input type="checkbox"/> R7 (Colorado River) <input type="checkbox"/> R8 (Santa Ana) <input type="checkbox"/> R9 (San Diego)
Size (acres):	
Watershed and Sub-Watershed:	
Owner	
Name(s):	
Mailing Address or P.O. Box:	<input type="checkbox"/> same as ranch address
City, State and Zip Code:	
Phone:	E-mail (optional):

<b>Tenant/Manager (if not owner)</b>			
Name(s):			
Mailing Address or P.O. Box: <input type="checkbox"/> same as ranch address			
City, State and Zip Code:			
Phone:		E-mail (optional):	
<b>Plan Preparer</b>			
Name of Plan Preparer		Plan Date:	
Preparer's Affiliation:			
Plan Sections Prepared: <input type="checkbox"/> All <input type="checkbox"/> Some (List Sections: _____)			
Email:		Phone:	
<b>Plans &amp; Certifications*</b>			
Check the box for the plans, certifications or other documents that exist for the ranch:			
<input type="checkbox"/> Conservation Easement	<input type="checkbox"/> Dairy Quality Assurance Program	<input type="checkbox"/> Erosion Control Plan	<input type="checkbox"/> Fire Mngt. Plan
<input type="checkbox"/> Fish Friendly Farming	<input type="checkbox"/> Grass-Fed Certification	<input type="checkbox"/> Grazing Mngt. Plan	<input type="checkbox"/> UCCE Ranch Plan
<input type="checkbox"/> Salmon Safe Certification	<input type="checkbox"/> NRCS Conservation Plan	<input type="checkbox"/> Dairy Nutrient Mngt.	<input type="checkbox"/> Dairy Waste Mngt. Plan
<input type="checkbox"/> Timber Harvest Plan	<input type="checkbox"/> Organic Certification	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Operations and Land Use** (this information is additional to the UCCE Plan)

Land Use Activity	Area/Length		Notes
Livestock (note type):		acres	How many?
Livestock (note type):		acres	How many?
Livestock (note type):		acres	How many?
Grazed/Rangeland		acres	

Roads (paved)		Feet/ miles	
Roads (unpaved)		Feet/ miles	
Other paved areas and buildings		Acres	
Forest/Woodland/Chaparral		Acres	
Open Space/Fallow/Undeveloped		Acres	
Reservoir/Pond (footprint)		Acres	
Stream/River/Creek/Riparian (delineated as blue-line on USGS topographic maps)		Feet/ Miles	
Stream/River/Creek/Riparian (not delineated as blue-line on USGS topographic maps)		Feet/ Miles	
Drainage Ditch/Canal		feet	
Other Farming Facilities		acres	
Other Land uses (list type)		acres	
Total Plan Acres			



### 3.2 RANCH GOALS\* (OPTIONAL)

Ranch goals are divided into production, quality of life and natural resource goals. These goals should reflect what you are trying to accomplish on your property. They are used to identify management strategies and practices for accomplishing your goals as well as to help you identify goals that might conflict with each other. Check any goal statements below which reflect your plans, reword them if needed and/or write-in your own words.

Production/Business
<input type="checkbox"/> pass on the farm/ranch to the next generation
<input type="checkbox"/> reduce family/farm debt
<input type="checkbox"/> expand farm/ranch enterprises
<input type="checkbox"/> develop new enterprises
<input type="checkbox"/> increase farm/ranch profitability (is the ranch providing adequate income? _____)
<input type="checkbox"/> reduce operating costs
<input type="checkbox"/> purchase or lease more ranch/farm property
<input type="checkbox"/> other:
Quality of Life
<input type="checkbox"/> reduce energy consumption in the farm/ranch operation
<input type="checkbox"/> provide for our children's college education
<input type="checkbox"/> provide financial or other support for community organizations
<input type="checkbox"/> reduce household operating expenses
<input type="checkbox"/> build an emergency fund
<input type="checkbox"/> raise livestock or crops during retirement
<input type="checkbox"/> build a retirement fund
<input type="checkbox"/> other:
Natural Resources & Water Quality
<input type="checkbox"/> manage rangeland to protect soil from erosion
<input type="checkbox"/> manage cropland, pastureland or forestland to protect soil from erosion
<input type="checkbox"/> manage ranch roads to reduce movement of sediment into streams and other water bodies
<input type="checkbox"/> reduce erosion of streambanks and gullies
<input type="checkbox"/> manage to increase tree cover and/or ground cover in riparian areas or along streams
<input type="checkbox"/> reduce concentration of livestock in or near streams, wetlands, or other water bodies

<input type="checkbox"/> manage to reduce entry of sediment, nutrients and pathogens to streams or wetlands
<input type="checkbox"/> reduce wildfire hazard
<input type="checkbox"/> maintain or enhance oak woodland, native grass, or other plant communities
<input type="checkbox"/> maintain or enhance wildlife or fisheries habitat or other aquatic resources
<input type="checkbox"/> reduce/manage invasive weeds
<input type="checkbox"/> reduce/manage predator impacts on the ranching operation
<input type="checkbox"/> meet water quality regulations
<input type="checkbox"/> improve water holding capacity of your soil, increase forage production
<input type="checkbox"/> utilize alternative water storage, water conservation strategies

**3.3 OFF-SITE CONDITIONS OUTSIDE OF LANDOWNER CONTROL**

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If there are any upslope and/or upstream land uses or conditions within the watershed that are out of your control and may influence your ability to effectively implement conservation practices to protect water quality on your property, please describe them below.

Describe any relevant off-site conditions that impact conditions on your property:

### 3.4 RANCH MAP SUMMARY

Maps will be an important part of your LandSmart Plan and will serve as an easy reference for you. Maps should be prepared on a topographic map, an aerial photograph, or a Google Earth image (minimum 1" = 1,000' or 1:12,000 scales). More than one map may be used to display the information needed to complete your plan. A more detailed map (scale of 1" = 500' or 1:6,000' may be needed to accurately depict stream channels, riparian corridors, or other small scale features. Each map should have a legend and should clearly display the features that are identified in your plan.

You may already have maps of the property to meet the mapping needs identified below. In this case, you may wish to include (or reference) existing maps in your Ranch Plan and alleviate the need to prepare new maps.

If you need assistance with mapping, RCD staff is available to assist you.

The below tables provide a summary of features mapped for inclusion in your Ranch Plan. Please indicate below which features are displayed on your Ranch Plan map(s) by checking the boxes as indicated. Maps should be kept with the Ranch Plan.

<b>Mapping</b>
<b>Watershed Assessment*</b>
<p>What types of stream(s) are on the ranch/farm? <input type="checkbox"/> Seasonal (intermittent) <input type="checkbox"/> Perennial <input type="checkbox"/> Both</p> <p>Name(s) of stream(s) on your ranch/farm (if named): _____</p> <p>Name of sensitive river, waterbody or wetland downstream (lake, bay, etc.): _____</p> <p>Is a municipal or domestic water supply source downstream? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure</p>

The below information is additional to the UCCE Plan.

Mark X if mapped, or N/A if not applicable		Notes
	Property (Parcel) Boundaries	
	Plan Boundaries	
	Topography (identify slope areas such as 0-10%, 10-20%, 20-30% and 40%+)	
	Areas under consideration for future pasture	
	Non-livestock land uses	
<b>Ranch Facilities – Give each area/feature a name or number for easy reference.</b>		
	Livestock water (troughs) and feeding areas	
	Equipment yards and/or staging areas	
	Manure Storage Areas	
	Areas for manure spreading	
	Composting area	
<b>Soils, Erosion Control, Management &amp; Structures – Give each area/feature a name or number for easy reference.</b>		
	Soil type(s) with erosion rating(s) (map from <a href="http://websoilsurvey.nrcs.usda.gov">http://websoilsurvey.nrcs.usda.gov</a> )	
	Drainage system (diversion ditches, storm drains, and underground outlets with inlets and outlets)	
	Sediment/attenuation/energy dissipation basin(s)	
	Vegetated buffer strips/filter strips	
	Erosion features on land associated w/ the ranch facility (i.e. gullies, rills, landslides, mudflows, rock falls)	
	Other:	

<b>Waterways – Give each area/feature a name or number for easy reference.</b>		
	Year Round Stream (those that flow year round)	
	Seasonal/Intermittent Stream ( those that flow for part of the year and generally stop flowing in late spring)	
	Ephemeral Stream (those that flow only during and shortly after a storm)	
	Human-made Waterways (non-roadside ditches)	
	Swale(s)	
	Spring(s), seep(s), or wet area(s)	
	Wetland Area(s)	
	Reservoir/Pond/lake(s) (indicate pipe or open channel spillway location)	
	Known barriers to fish migration	
	In-stream structures that may affect stream morphology or cause erosion	
	Erosion features in waterways associated with the ranch facility and roads( i.e. streambank erosion, channel incision)	
	Wells, with notation of their use (agricultural, residential, not in use, other)	
<b>Roads - Identify with a name and indicate if public, private and/or easements</b>		
	Surfaced (paved, gravel, etc.) roads	
	Unsurfaced (dirt, vegetated etc) roads	
	Abandoned (tail or non-used) roads	
	Waterway crossings (indicate whether freespan bridge, culvert, ford, etc.)	
	Roadside ditches	
	Road drainage structures (ditch relief culverts, waterbars, rolling dips, etc.)	
	Erosion features on land associated with roads (i.e. gullies, rills, landslides, mudflows, rock falls)	
	Erosion associated with roadside ditches, ditch relief culverts, waterbars, rolling dips, etc.	

	Other:	
<b>Other areas to map – Give each area/feature a name or number for easy reference.</b>		
	Equipment storage areas	
	Agrichemical mixing/storage areas	
	Maintenance and repair locations	
	Refueling locations/storage	
	Motor oil recycling	
<b>Monitoring Photo-points – Give each point a number for easy reference.</b>		
	Photo-points for annual monitoring	
	Photo-points for management practice implementation and annual maintenance	
	Photo-points of points of discharge	
	Photo-points to demonstrate condition downstream of discharge points	
	Photo-points to track “areas to watch” – e.g. areas with erosion or invasive weeds that you want to track over time	

### 3.5 FIELD/PASTURE INVENTORY\*

Describe each pasture, paddock and open rangeland on the ranch with estimations of area, slope, and woody vegetation cover. Large or complex pastures may be subdivided into subsection units for management and/or mapping purposes. Estimate the minimum objective for Residual Dry Matter (RDM) monitoring using Tables 1-3 from

<http://anrcatalog.ucdavis.edu/RangelandMonitoringSeries/8092.aspx>.

Note the season(s) or months when livestock are moved in/out of the pasture each year and soil types(s) or series(s) if known.

Field #	Location (Name or #)	Season(s) of Use	Soil(s)	Size (acres)	Slope (%)	Woody Vegetation Cover (%)	RDM Minimum (lb/ac)



### 3.6 PASTURE AND WATER MANAGEMENT

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**Background:** Pastures are areas where grass is grown for forage for livestock and maintained to prevent erosion and protecting a pasture's soil and vegetative cover will help to maintain pasture productivity. Soil erosion usually occurs when vegetative cover is removed and soil is left unprotected during the winter months. Soil erosion in pastures is usually the result of poor grazing management. Over stocking a pasture and allowing livestock to graze forage down to bare ground is probably the single fastest way to destroy the pasture and soil resource. Livestock can be very disruptive to soil in other ways as well. If animals are allowed to graze during periods of irrigation or heavy rainfall they can compact the soil and destroy plant cover. Livestock trails can also cause the soil to erode specially on steeper slopes where runoff water finds its way into the ruts that are formed by the animals. Areas along water courses such as streambanks are particularly susceptible to erosion caused by livestock, especially if alternate watering facilities are not adequate. Riparian areas are also prone to overuse by livestock seeking shade and riparian growth to browse on. If livestock are not well distributed over the pasture the likelihood of overgrazing and potential for soil erosion becomes greater. While adverse conditions in these areas may not be caused by current livestock grazing activities, it is important to describe all conditions accurately, regardless of cause.

There are a number of ways ranchers can improve water management on pastures through their irrigation delivery systems and crop and soil management. Improvements in irrigation scheduling, delivery and management, and matching water supply to crop needs can be utilized. Systems can be created that require less water or make better use of what's available via aquifers, streams, rivers, ponds or precipitation.

**Purpose:** Identify practices currently in use and that are intended for implementation to:

- ✓ Maintain grass cover on pastures (can be dry grass at the end of the season) to protect soil from erosion and to maintain plant vigor.
- ✓ Control livestock access to creeks and ponds when possible; provide other sources of drinking water.
- ✓ Provide extra protection in riparian areas to prevent erosion and over-use.
- ✓ Practice rotational grazing; divide up pastures and move livestock from one to another to allow pastures to rest and recover.
- ✓ Develop water sources, shade structures or other attractants to attract livestock to remote portions of pastures.
- ✓ Manage weeds for pasture health and animal health.
- ✓ Manage soil for water holding capacity. Applying practices that build soil quality, resulting in a porous, well-structured soil that allows water to infiltrate and holds it there for use by plants.
- ✓ Manage plants and livestock to maximize water availability. Selecting plants, such as drought-tolerant species and native varieties that maximize water availability in crop rotations or pastures.
- ✓ Manage water carefully. Treating water like a precious resource, capturing, conserving and recycling it, where appropriate, among farming enterprises.

Question	Potential Concern (Source)	Location ( <i>pasture/field</i> ) & Describe Condition	Cause <sup>1</sup> (C, H, or N)
<b>SEDIMENT *</b>			
<b>RANGELAND &amp; PASTURE/CROP FIELDS</b>			
PM1. Bare soil visible throughout the rainy season? <i>If potential concern noted, consider practices #1 and 2 listed in table PM1 below</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
PM2. Rill or sheet erosion present? <i>If potential concern noted, consider practices #1, 2, and 3 listed in table PM1 below</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
PM3. Gullies, slumps, or headcuts present? <i>If potential concern noted, consider practices #1, 2, 4, 6 and 7 listed in table PM1 below</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
<b>ROADS (see Roads &amp; Crossings section later in this document)</b>			
<b>PATHOGENS AND NUTRIENTS*</b>			
<b>LIVESTOCK DISTRIBUTION (see Stormwater Management section later in this document for additional questions)</b>			
PM4. Corrals used throughout the winter?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
PM5. Feeding, salting, or watering areas near stream? <i>Please indicate these areas on your facility map. If potential concern noted, consider practices #5 and 6 listed in table PM1 below</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
PM6. Do livestock congregate in the stream? <i>If potential concern noted, consider practices #5 through 8 listed in table PM1 below</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
<b>MANURE MANAGEMENT (see Manure Storage &amp; Nutrient Management section later in this document)</b>			

<sup>1</sup>Current livestock management (C); a Historical legacy site (H); or Natural causes (N).

PM7. Do you monitor your pastures for Residual Dry Matter (RDM)?

*RDM is the old plant material left standing or on the ground at the beginning of a new growing season. It indicates the combined effects of the previous season's forage production and its consumption by grazing animals of all types. RDM remaining in the fall will influence subsequent species composition and forage production. The purpose of RDM monitoring is to collect information in a practical manner that is adequate to assess grazing objectives and make management adjustments when needed.*

Yes, describe below.

No (Consider practice #1, listed in Table PM1 below and refer to the RDM resources provided in the **Additional Resources** section of this plan. )

PM8. Do you practice rotational grazing?

Yes

No (Consider practice #2 in Table PM1 below)

PM9. Does the livestock have direct, unlimited access to drainage ways, stream channels or ponds?

Yes (Consider practices #5 through 7 in Table PM1 below)

No

PM10. Is the livestock moved from the pastures when necessary to protect the pastures from erosion and damage to grass? (i.e. when the soil is saturated or when they have grazed it to 4 inches or lower.)

Yes  No (Consider practices #2 and 3 in Table PM1 below)

PM11. Do you manage your pastures to limit or control weeds?

Yes  No (Consider practice #20 in Table PM1 below)

PM12. What type of shade is provided for livestock on pastures? How far is it located next to surface water? (Consider practice #5 in Table PM1 below)

Describe as needed:

**Water Sources and Management (Optional)**

PM13. Check all sources of water that are utilized.

- Surface Water
- Ground Water
- Municipal Water
- Reclaimed / Recycled Water (from off-site)
- Reclaimed / Recycled Water (from site)
- Harvested Rainwater
- Other (list)

Describe as needed:

PM14. What water sources are provided for livestock on pastures? How far are they located from surface water? Please indicate water sources on your facility map. (Consider practice # 6 in Table PM1 below)

Describe as needed:

PM15. Are pasture areas irrigated?

- Yes (Consider practice #9 in Table PM1 below, and answer A through F below)  No

(Skip to Question PM16.)

A. Irrigation systems were designed by an agricultural engineer, irrigation consultant or other professional.

- Yes

- No (Consider practice #20 in Table PM1 below)

Describe as needed:

- B. Irrigation is scheduled and applied according to plant needs as determined by water monitoring and management tools (e.g., soil moisture sensors, weather stations, etc.) and visual observations.

- Yes
- No (Consider practices #10 and 11, in Table PM1 below)

Describe as needed:

- C. Water management techniques such as delayed onset of irrigation or dry farming are considered and used to meet ranch conservation goals.

- Yes
- No (Consider practices #10, 11 and 12, listed in Table PM1 below)

Describe as needed:

- D. Irrigation systems are monitored for leaks and performance, and maintained regularly.

- Yes
- No (Consider practices #13, listed in Table PM1 below)

Describe as needed:

- E. Water use is monitored with a flow meter and documented.

- Yes
- No (Consider practices #14 and 15, listed in Table PM1 below)

Describe as needed:

- F. Reclaimed, recycled and harvested water are utilized to the extent practicable with consideration of the areas where agricultural irrigation with recycled water is shown to be safe for humans and ecosystems.

- Yes
- No (Consider practice #16 and 17, listed in Table PM1 below)

Describe as needed:

PM16. Do you plan early for determining your animals’ forage needs?

- Yes
- No (Consider practice #18 in Table PM1 below)

Describe as needed:

PM17. Riparian buffers, filter strips, grassed waterways, or other types of conservation buffers near streams or other sources of water are established and maintained.

- Yes
- No (Consider practice #19 in Table PM1 below)

Describe as needed:

**Table PM1: Conservation Practices for Pasture and Water Management**

The following table provides an assortment of management practices that are intended to protect water quality. Implementation of all practices is not necessary or required. Selection of practices must be done on a site-specific basis and an assortment of practices to protect water quality and to suit your circumstance should be selected. NRCS Practice Titles are provided for your reference.

<i>Conservation Practice</i>	<i>NRCS Practice Title</i>	<i>Current Practice</i>	<i>Recommended Practice</i>
1. Monitor for RDM		<input type="checkbox"/>	<input type="checkbox"/>
2. Divide pastures for rotational grazing	Fence (382) Animal Trails and Walkways (575)	<input type="checkbox"/>	<input type="checkbox"/>
3. Provide a stable, non eroding surface for areas frequently used by animals	Heavy Use Area Protection (561)	<input type="checkbox"/>	<input type="checkbox"/>

4. Stabilize active gullies	Grade Stabilization Structure (410)	<input type="checkbox"/>	<input type="checkbox"/>
5. Provide additional salting and feeding and shade areas to animals to improve distribution		<input type="checkbox"/>	<input type="checkbox"/>
6. Provide additional water sources to animals to improve distribution	Watering Facility (614) Livestock Pipeline (516)	<input type="checkbox"/>	<input type="checkbox"/>
7. Install riparian fencing to control animal access to waterways	Fence (382)	<input type="checkbox"/>	<input type="checkbox"/>
8. Pasture seeding to provide protection against stream erosion	Range Planting (550)	<input type="checkbox"/>	<input type="checkbox"/>
9. Conduct an irrigation audit and implement system improvements accordingly (every 3 years recommended)	Irrigation Water Management (449)	<input type="checkbox"/>	<input type="checkbox"/>
10. Install and utilize soil moisture monitoring devices	Irrigation Water Management (449)	<input type="checkbox"/>	<input type="checkbox"/>
11. Install and utilize a weather monitoring system or utilize a near-by CIMIS weather station.	Irrigation Water Management (449)	<input type="checkbox"/>	<input type="checkbox"/>
12. Upon reseeding, consider more drought tolerant plant species		<input type="checkbox"/>	<input type="checkbox"/>
13. Conduct periodic monitoring during the season of use and repair as necessary	Irrigation Water Management (449)	<input type="checkbox"/>	<input type="checkbox"/>
14. Install and utilize flow meters to monitor and record water use	Irrigation Water Management (449)	<input type="checkbox"/>	<input type="checkbox"/>
15. Inspect and calibrate flow meters		<input type="checkbox"/>	<input type="checkbox"/>
16. Consider options for reclaimed / recycled water, including possibility of recycled water from local treatment plants that may be available for trucking		<input type="checkbox"/>	<input type="checkbox"/>

17. Consider rainwater harvesting and storage, particularly if there are large buildings on-site		<input type="checkbox"/>	<input type="checkbox"/>
18. Contract early to make sure you will have enough hay during dry times or find alternative feed sources		<input type="checkbox"/>	<input type="checkbox"/>
19. Establish and maintain vegetation near stream for water storage for later use.		<input type="checkbox"/>	<input type="checkbox"/>
20. Consult a professional		<input type="checkbox"/>	<input type="checkbox"/>



**3.7 STORMWATER DRAINAGE (IF APPLICABLE)**

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**Background:** Rainwater flowing across the land, or in channels or pipes is called Stormwater Runoff. If stormwater runoff is allowed to erode soil from bare areas or run through manured areas, it becomes polluted and must not be allowed to enter a stream. High use areas, such as buildings, corrals, holding facilities, etc., are areas that must be managed to keep clean water from becoming polluted. Diverting fresh water around high-use areas will keep the “clean water clean” and minimize the runoff from high-use areas. By keeping the size of high-use areas small, managing polluted water can be reduced. It is much easier to manage the clean water than treat the water once it becomes polluted.

**Purpose:** Identify practices currently in use and that are intended for implementation to:

- ✓ Keep clean water clean.
- ✓ Do not mix with waste water or allow it to run through any confinement areas.
- ✓ Convey stormwater drainage such that erosion and soil loss are prevented

**Roof Drainage (if applicable)**

\* Note there are approximately 7.5 gallons of water in a cubic foot. Therefore a 100 square feet (10 foot x -10 foot) of impervious area, such as a roof, will capture, yield approximately 62.5 gallons of rainwater with each inch of rainfall. This statistic may prove helpful in evaluating your current runoff management from barn roofs.

SW1. Do you have gutters and down spouts on all barn roofs?

- Yes                       No (Consider practice #1 in Table SW1 below)

If yes, where do the gutter outlet?

SW2. Do the down spouts tie into a drainage system that keeps the clean water away from contaminants such as bare ground?

- Yes                       No (Consider practices #2 and 3, listed in Table SW1 below)

SW3. If you do not have gutters on every building, is the clean water kept out of the contaminated areas (areas with manure or bare ground)?

- Yes (If so, how?)                       No (Consider practices #1 and 4 listed in Table SW1 below)

Describe as needed:

**Property Drainage**

SW4. Do you have drainage systems installed on your property?

- Yes (Please indicate these systems on your site plan map)  No

SW5. Do you have a backup plan in case of system failure? Please explain below.

- Yes  No

Describe as needed:

SW6. Do all of the drainage systems that carry contaminated water outlet into a filter area? Please explain.

- Yes  No (Consider practice #5 in Table SW1 below)

Describe as needed:

SW7. Do you combine your clean and contaminated water into the same outlet area? Please explain.

- Yes  No

Describe as needed:

Where potential concerns are identified, please reference the conservation practice recommendations noted below.

Question	Potential Concern (Source)	Location ( <i>pasture/field</i> ) & Describe Condition	Cause <sup>1</sup> (C, H, or N)
<b>PATHOGENS AND NUTRIENTS*</b>			
<b>LIVESTOCK DISTRIBUTION</b>			
SW8. Storm runoff from corrals connects to stream? <i>If potential concern noted, consider practices # 2 and 5, listed in Table SW1 below</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		

<sup>1</sup>Current livestock management (C); a Historical legacy site (H); or Natural causes (N).

**Table SW1: Conservation Practices for Management of Stormwater Drainage**

The following table provides an assortment of management practices that are intended to protect water quality. Implementation of all practices is not necessary or required. Selection of practices must be done on a site-specific basis and an assortment of practices to protect water quality and to suit your circumstance should be selected. NRCS Practice Titles are provided for your reference.

Conservation Practice	NRCS Practice Title	Current Practice	Recommended Practice
1. Install roof gutters and down spouts	Roof Runoff Structure (558)	<input type="checkbox"/>	<input type="checkbox"/>
2. Divert water away from contaminated areas	Diversion (362)	<input type="checkbox"/>	<input type="checkbox"/>
3. Tie down spouts into a drainage system	Roof Runoff Structure (558)	<input type="checkbox"/>	<input type="checkbox"/>
4. Install a roof or cover to divert clean water from animal management areas	Roof and Covers (367)	<input type="checkbox"/>	<input type="checkbox"/>
5. Plant a vegetative filter strip	Filter Strip (393)	<input type="checkbox"/>	<input type="checkbox"/>
Other:		<input type="checkbox"/>	<input type="checkbox"/>

### 3.8 MANAGING NATURAL WATERWAYS, DITCHES, AND SPILLWAYS

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Waterways, channels and streams, swales, ditches, and riparian areas are sensitive to agricultural, forest, and other land use activities and practices. These waterways also may act as a conduit for sediment and other pollutants. Healthy riparian zones provide a number of environmental benefits and may protect streambanks from erosion. Riparian areas also buffer waterways from the effects of potential nutrient, pesticide, pathogen and sediment runoff.

**Purpose:** Describe the condition of natural stream channels, riparian areas, and human-made waterways (non-roadside ditches and pond/basin spillways) on the property including the rate of bed and/or bank erosion, channel incision, head-cutting and the condition of human-made structures in the channel. While adverse conditions in these areas may not be caused by current livestock grazing activities, it is important to describe all conditions accurately, regardless of cause. Describe the conservation practices being implemented to protect waterways from water quality degradation.

#### Managing Erosion and Water Quality in Natural Waterways

W1. Please mark the type(s) of waterways on the property that are on or adjacent to the ranch facility:

- Natural (Complete questions W2 through W15)
- Ditches (Complete Question W16)
- Spillways (Complete Questions W17 through W21)
- No Waterways (You do not have to complete this section of the template.)

W2. Waterways on the property regularly flow out of their banks and flood causing erosion and/or other problems.

- Yes (Identify problematic locations. Consider Practice #1, listed in table W1 below)
- No

Describe as needed:
---------------------

W3. Ranch facilities are set back from waterways by the minimum distance required by County regulations (or greater).

- Yes
- Some waterways (Consider practice #9, listed in Table W1 below)
- No (Consider practice #9, listed in Table W1 below)

Describe as needed:

W4. Agricultural supplies (heaters, trellis parts, irrigation supplies, machinery, etc.) are stored outside of the required waterway setback during winter months.

- Yes
- No (Consider practice #10, listed in Table W1 below)
- Not Applicable

Describe as needed:

Where potential concerns are identified, please reference the conservation practice recommendations noted below.

Question	Potential Concern	Location (pasture/stream) & Describe Condition	Cause <sup>1</sup> (C, H, or N)
<b>STREAM CHANNEL*</b>			
W5. Bare soil along banks of stream? <i>If Potential Concern noted, consider practices # 1, 3, 4 and 5, listed in Table W1 below.</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		

<p>W6. Unstable or eroding stream banks?  <i>If Potential Concern noted, consider practices #1, 2, 4 and 5, listed in Table W1 below and refer to Sediment Delivery Inventory and Monitoring guidance located here:</i>  <a href="http://anrcatalog.ucdavis.edu/pdf/8014.pdf">http://anrcatalog.ucdavis.edu/pdf/8014.pdf</a>  <i>if necessary</i></p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
<p>W7. Does the stream have the potential to support trees (look for remnant trees/shrubs along the channel)?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
<p>W8. Are crossings for livestock unstable?  <i>If Potential Concern noted, consider practices # 1 and 6, listed in Table W1 below</i></p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
<p>W9. Grazing in riparian areas takes place all season?  <i>If Potential Concern noted, consider practices # 1, 7 and 8, listed in Table W1 below</i></p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
<b>STREAM TEMPERATURE*</b>			
<p>W10. Is stream exposed to full sun?  <i>If Potential Concern noted, consider practices # 1 and 3 through 5, listed in Table W1 below</i></p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
<p>W11. Wide and shallow streams?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
<p>W12. Does stream flow appear inadequate, given stream channel size?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
<b>NUTRIENTS*</b>			
<p>W13. Algae growth excessive in stream?  <i>If Potential Concern noted, consider practices # 1, 4, 5, 7, and 8, listed in Table W1 below</i></p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		

<sup>1</sup>Note any recorded problem conditions as caused by: **C**urrent livestock management (**C**); a **H**istorical legacy site (**H**); or **N**atural causes (**N**).

W14. Complete this data form for all natural waterways on or adjacent to the Ranch facility. If major streams have widely varying characteristics, break the stream out into reaches with consistent characteristics. Make additional copies if all waterways do not fit on one.

<b>Waterway Name</b> As labeled on Map. Break into reaches as needed.	<b>Active channel width (ft)</b>	<b>Bank Height (Ft)</b>	<b>Flow Persistence</b> (During average rain season)	<b>Channel Condition</b>	<b>Slope of Banks</b>	<b>Material on Waterway Bottom</b> Check <u>two</u> boxes that are most appropriate	<b>Riparian Corridor Width (ft)</b> Use Google Earth tools to measure	<b>Riparian Vegetation</b>	<b>Riparian Shade Over Waterway</b>
	<input type="checkbox"/> 0-10 <input type="checkbox"/> 11-25 <input type="checkbox"/> 26-50 <input type="checkbox"/> 51+	<input type="checkbox"/> 0-2 <input type="checkbox"/> 3-6 <input type="checkbox"/> 7-10 <input type="checkbox"/> 11+	<input type="checkbox"/> Year-round <input type="checkbox"/> Seasonally <input type="checkbox"/> During & shortly after storms	<input type="checkbox"/> Stable <input type="checkbox"/> Eroding <input type="checkbox"/> Widening <input type="checkbox"/> Deepening <input type="checkbox"/> Building up	<input type="checkbox"/> Steep (1:1) <input type="checkbox"/> Moderate (2:1) <input type="checkbox"/> Gentle (3:1 or less)	<input type="checkbox"/> Silt and Clay <input type="checkbox"/> Sand <input type="checkbox"/> Gravel (pea to tennis ball) <input type="checkbox"/> Cobble (tennis to basketball) <input type="checkbox"/> Boulder (> than a basketball) <input type="checkbox"/> Bedrock	<input type="checkbox"/> 0-10 <input type="checkbox"/> 11-25 <input type="checkbox"/> 26-50 <input type="checkbox"/> 50+	<input type="checkbox"/> Minimal <input type="checkbox"/> Sparse <input type="checkbox"/> Moderate <input type="checkbox"/> Dense <input type="checkbox"/> Overgrown	<input type="checkbox"/> Not shaded/ sparsely shaded <input type="checkbox"/> Partially shaded <input type="checkbox"/> Mostly shaded
	<input type="checkbox"/> 0-10 <input type="checkbox"/> 11-25 <input type="checkbox"/> 26-50 <input type="checkbox"/> 51+	<input type="checkbox"/> 0-2 <input type="checkbox"/> 3-6 <input type="checkbox"/> 7-10 <input type="checkbox"/> 11+	<input type="checkbox"/> Year-round <input type="checkbox"/> Seasonally <input type="checkbox"/> During & shortly after storms	<input type="checkbox"/> Stable <input type="checkbox"/> Eroding <input type="checkbox"/> Widening <input type="checkbox"/> Deepening <input type="checkbox"/> Building up	<input type="checkbox"/> Steep (1:1) <input type="checkbox"/> Moderate (2:1) <input type="checkbox"/> Gentle (3:1 or less)	<input type="checkbox"/> Silt and Clay <input type="checkbox"/> Sand <input type="checkbox"/> Gravel <input type="checkbox"/> Cobble <input type="checkbox"/> Boulder <input type="checkbox"/> Bedrock	<input type="checkbox"/> 0-10 <input type="checkbox"/> 11-25 <input type="checkbox"/> 26-50 <input type="checkbox"/> 50+	<input type="checkbox"/> Minimal <input type="checkbox"/> Sparse <input type="checkbox"/> Moderate <input type="checkbox"/> Dense <input type="checkbox"/> Overgrown	<input type="checkbox"/> Not shaded/ sparsely shaded <input type="checkbox"/> Partially shaded <input type="checkbox"/> Mostly shaded
				If channel condition is not stable, consider practices # 1 through 5 and 12 listed in Table W1 below	If banks are very steep, consider practices # 1, 2, 9 and 12 listed in Table W1 below	Silt on the waterway bottom may indicate erosion nearby or upstream.	If riparian corridor width is less than county required setback, consider practices # 4, 5 and 12 in Table W1 below	If vegetation is minimal or sparse, consider practices # 4 and 5 in table W1. If vegetation is overgrown, consider practice # 3 in Table W1.	If riparian shade is sparse or not present, consider practice #4 in Table W1.

**Bank Erosion:**

Please note location and dimensions of any significant erosion features and whether erosion is already being treated/managed. If erosion at site is not being addressed consider practices #1 through 6 and 9 listed in Table W1.

**Other Notes:**



W15. (Optional Section) Complete this data form for each natural waterway where there is opportunity and landowner interest in enhancing native vegetation, fish and wildlife habitat. If you broke streams out into reaches above, use the same reaches here.

<b>Waterway Name</b> As labeled on Map. Please break major streams into reaches as above.	<b>Variety of Native Vegetation?</b> Mix of grasses, forbs, shrubs and trees?	<b>Non-native/ Invasive Plants</b> Indicate percentage of vegetative cover that is non-native. Seek assistance as needed.	<b>Structures Within Waterway Known to Cause Obstruction to Fish Passage?</b> Yes/No, note location	<b>Creek Channel Features</b> Check the boxes that seem to apply most.	<b>In-stream Habitat Structure</b> Check the boxes that seem to apply most.
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 0-25% <input type="checkbox"/> 25-50% <input type="checkbox"/> 50-75% <input type="checkbox"/> 75-100%	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Deep pools (>5') <input type="checkbox"/> Shallow pools (< 5') <input type="checkbox"/> Gravel Bars <input type="checkbox"/> Riffles (shallow gravel areas where water moves fast) <input type="checkbox"/> Bends <input type="checkbox"/> Straight	<input type="checkbox"/> Large wood <input type="checkbox"/> Boulders <input type="checkbox"/> Overhanging roots/banks <input type="checkbox"/> None of the above
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 0-25% <input type="checkbox"/> 25-50% <input type="checkbox"/> 50-75% <input type="checkbox"/> 75-100%	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Deep pools (>5') <input type="checkbox"/> Shallow pools (< 5') <input type="checkbox"/> Gravel Bars <input type="checkbox"/> Riffles <input type="checkbox"/> Bends <input type="checkbox"/> Straight	<input type="checkbox"/> Large wood <input type="checkbox"/> Boulders <input type="checkbox"/> Overhanging roots/banks <input type="checkbox"/> None of the above
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 0-25% <input type="checkbox"/> 25-50% <input type="checkbox"/> 50-75% <input type="checkbox"/> 75-100%	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Deep pools (>5') <input type="checkbox"/> Shallow pools (< 5') <input type="checkbox"/> Gravel Bars <input type="checkbox"/> Riffles <input type="checkbox"/> Bends <input type="checkbox"/> Straight	<input type="checkbox"/> Large wood <input type="checkbox"/> Boulders <input type="checkbox"/> Overhanging roots/banks <input type="checkbox"/> None of the above
	If no, consider practices # 4 and 5 in Table W1 below	If non-native plant cover >50%, or if non-natives are a management concern, consider practice # 3 in table W1 below	If yes, consider practice # 10 in Table W1 below		If low or none, consider practices # 1 and 11 in Table W1 below

**Waterway Enhancement:**

To the extent possible, please map and note location(s) of non-native plant species. Please also map and note possible fish migration barriers and or areas of the creek or its upper banks that you believe could be enhanced for fish and wildlife species.

**Notes:**

**Table W1: Conservation Practices to Reduce Erosion in Natural Waterways**

The following table provides an assortment of management practices that are intended to protect water quality. Implementation of all practices is not necessary or required. Selection of practices must be done on a site-specific basis. An assortment of practices to protect water quality and to suit your circumstance should be selected. NRCS Practice Titles are provided for your reference and you may contact your local NRCS or RCD field office for technical and/or possible financial assistance.

<i>Conservation Practice</i>	<i>NRCS Practice Title</i>	<i>Current Practice</i>	<i>Recommended Practice</i>
1. Consult a Professional		<input type="checkbox"/>	<input type="checkbox"/>
2. Apply treatments to stabilize and protect streambanks	Streambank and Shoreline Protection (580)	<input type="checkbox"/>	<input type="checkbox"/>
3. Remove invasive riparian plants and establish native riparian cover (permit may be needed)	Restoration & Management of Declining Habitats (643)  Weed Control (315)  Brush Management (314)	<input type="checkbox"/>	<input type="checkbox"/>
4. Establish native riparian trees and shrubs	Riparian Forest Buffer (391)	<input type="checkbox"/>	<input type="checkbox"/>
5. Establish native riparian grasses and forbs	Riparian Herbaceous Cover (390)	<input type="checkbox"/>	<input type="checkbox"/>
6. Provide stable livestock crossings	Stream Crossing (578)	<input type="checkbox"/>	<input type="checkbox"/>
7. Provide additional water sources to animals to improve distribution	Watering Facility (614) Livestock Pipeline (516)	<input type="checkbox"/>	<input type="checkbox"/>
8. Install riparian fencing to control animal access to waterways	Fence (382)	<input type="checkbox"/>	<input type="checkbox"/>

9. Promote natural restoration (let the bank erode and as it becomes stable encourage native vegetation recruitment)		<input type="checkbox"/>	<input type="checkbox"/>
10. Modify instream structures to improve fish passage	Stream Habitat Improvement and Management (395)	<input type="checkbox"/>	<input type="checkbox"/>
11. Install in-stream structures to enhance habitat	Stream Habitat Improvement and Management (395)	<input type="checkbox"/>	<input type="checkbox"/>
12. Provide more space to the stream by setting back structures and storage areas		<input type="checkbox"/>	<input type="checkbox"/>
13. Establish a supply yard away from the waterway		<input type="checkbox"/>	<input type="checkbox"/>
Other:		<input type="checkbox"/>	<input type="checkbox"/>

**Managing Erosion and Water Quality in Ditches**

W16. Complete this inventory of ditches on or adjacent to the ranch facility.

Ditch ID (As labeled on Map)	Ditch			Adjacent Buffer	
	Width at top of bank (ft)	Ditch Condition	Vegetative Cover on Ditch Banks and Bottom	Vegetation Buffer Width (ft) From top of bank	Vegetation Condition Minimal, Sparse, Moderate, Full Cover
	<input type="checkbox"/> 0-10 <input type="checkbox"/> 11-25 <input type="checkbox"/> 25+	<input type="checkbox"/> Stable <input type="checkbox"/> Eroding <input type="checkbox"/> Widening <input type="checkbox"/> Deepening <input type="checkbox"/> Building up	<input type="checkbox"/> None/Minimal <input type="checkbox"/> Sparse <input type="checkbox"/> Moderate <input type="checkbox"/> Full Cover	<input type="checkbox"/> 0-10 <input type="checkbox"/> 11-25 <input type="checkbox"/> 25+	<input type="checkbox"/> None/Minimal <input type="checkbox"/> Sparse <input type="checkbox"/> Moderate <input type="checkbox"/> Full Cover
	<input type="checkbox"/> 0-10 <input type="checkbox"/> 11-25 <input type="checkbox"/> 25+	<input type="checkbox"/> Stable <input type="checkbox"/> Eroding <input type="checkbox"/> Widening <input type="checkbox"/> Deepening <input type="checkbox"/> Building up	<input type="checkbox"/> None/Minimal <input type="checkbox"/> Sparse <input type="checkbox"/> Moderate <input type="checkbox"/> Full Cover	<input type="checkbox"/> 0-10 <input type="checkbox"/> 11-25 <input type="checkbox"/> 25+	<input type="checkbox"/> None/Minimal <input type="checkbox"/> Sparse <input type="checkbox"/> Moderate <input type="checkbox"/> Full Cover
	<input type="checkbox"/> 0-10 <input type="checkbox"/> 11-25 <input type="checkbox"/> 25+	<input type="checkbox"/> Stable <input type="checkbox"/> Eroding <input type="checkbox"/> Widening <input type="checkbox"/> Deepening <input type="checkbox"/> Building up	<input type="checkbox"/> None/Minimal <input type="checkbox"/> Sparse <input type="checkbox"/> Moderate <input type="checkbox"/> Full Cover	<input type="checkbox"/> 0-10 <input type="checkbox"/> 11-25 <input type="checkbox"/> 25+	<input type="checkbox"/> None/Minimal <input type="checkbox"/> Sparse <input type="checkbox"/> Moderate <input type="checkbox"/> Full Cover
		If ditch condition is not stable, consider practices #1 through 6 listed in table W2 below.	If vegetative cover is minimal or sparse, consider practices #2 and 6 listed in Table W2 below.	If vegetation is not present, or if width is narrower than the ditch itself, consider practice #3 listed in table W2 below.	If vegetation is minimal or sparse, consider practice #2 listed in table W2 below.

**Notes:**

**Table W2: Conservation Practices to Reduce Erosion and Manage Stability and Conveyance in Ditches**

The following table provides an assortment of management practices that are intended to protect water quality. Implementation of all practices is not necessary or required. Selection of practices must be done on a site-specific basis. An assortment of practices to protect water quality and to suit your circumstance should be selected. NRCS Practice Titles are provided for your reference and you may contact your local NRCS or RCD field office for technical and/or possible financial assistance.

<i>Conservation Practice</i>	<i>NRCS Practice Title</i>	<i>Current Practice</i>	<i>Recommended Practice</i>
1. Consult a Professional		<input type="checkbox"/>	<input type="checkbox"/>
2. Establish native grasses and forbs	Conservation Cover (327)  Critical Area Planting (342)	<input type="checkbox"/>	<input type="checkbox"/>
3. Provide more space to the ditch by setting back agricultural operations where feasible		<input type="checkbox"/>	<input type="checkbox"/>
4. Line an eroding swale or diversion ditch – seek opportunities to disperse water and ensure that outlet is protected and well maintained	Lined Waterway or Outlet (468)	<input type="checkbox"/>	<input type="checkbox"/>
5. Install rock check structures to dissipate hydraulic energy	Structure for Water Control (587)	<input type="checkbox"/>	<input type="checkbox"/>
6. Plant a vegetative filter waterway	Grassed Waterway (412)	<input type="checkbox"/>	<input type="checkbox"/>
Other:		<input type="checkbox"/>	<input type="checkbox"/>

**Managing Erosion from On-Farm Pond/Basin Spillways**

W17. Open channel spillways are stable (not eroding) and/or properly armored to prevent erosion.

- Yes (Briefly describe condition of spillway and how spillway is managed)
- No (Consider practices # 1 through 5, listed in Table W3 below)
- Not Applicable, no open spillways.

Describe as needed:

W18. Piped and open channel spillways from on-farm ponds are adequately sized to handle expected pond overflow volume.

- Yes (Describe sizing and condition of piped spillway and outlet)
- Some spillways (Consider practices #3, 6 and 7, listed in Table W3 below)
- No spillways (Consider practices #3, 6 and 7, listed in Table W3 below)

Describe as needed:

W19. The alignments of spillway outlets, both piped and open channel, are in line with the downstream waterway (i.e., flow from the spillway outlet enters the waterway in-line with flow of the natural waterway).

- Yes
- Some spillways (Consider practice # 8, listed in Table W3 below)
- No spillways (Consider practice # 8, listed in Table W3 below)
- Not Applicable

Describe as needed:

W20. Spillways, pipe and open channel, from on-farm ponds have energy dissipaters prior to re-entering the downstream waterway.

- Yes (Describe energy dissipater and its condition)
- Some spillways (Consider practices #5 through 7, listed in Table W3 below)
- No spillways (Consider practices #5 through 7, listed in Table W3 below)
- Not Applicable

Describe as needed:



**Table W3: Conservation Practices to Reduce Erosion and Manage Stability and Conveyance in On-farm Pond/Basin Spillways**

The following table provides an assortment of management practices that are intended to protect water quality. Implementation of all practices is not necessary or required. Selection of practices must be done on a site-specific basis and an assortment of practices to protect water quality and to suit your circumstance should be selected. NRCS Practice Titles are provided for your reference.

<i>Conservation Practice</i>	<i>NRCS Practice Title</i>	<i>Current Practice</i>	<i>Recommended Practice</i>
1.Consult a Professional		<input type="checkbox"/>	<input type="checkbox"/>
2.Install a rock weir to control in-channel flow	Grade Stabilization Structure (410)	<input type="checkbox"/>	<input type="checkbox"/>
3.Widen/enlarge the spillway	Pond (378)	<input type="checkbox"/>	<input type="checkbox"/>
4.Stabilize the open channel spillway	Pond (378)	<input type="checkbox"/>	<input type="checkbox"/>
5.Plant a vegetative filter waterway	Grassed Waterway (412)	<input type="checkbox"/>	<input type="checkbox"/>
6.Install a rock lined plunge basin	Structure for Water Control (587)	<input type="checkbox"/>	<input type="checkbox"/>
7. Install an energy dissipater at the spillway outlet to reduce streambank erosion	Streambank Protection (580)	<input type="checkbox"/>	<input type="checkbox"/>
8.Realign the existing spillway with the downstream waterway	Pond (378)	<input type="checkbox"/>	<input type="checkbox"/>
Other:		<input type="checkbox"/>	<input type="checkbox"/>

**3.9 ROADS AND CROSSINGS**

**Background:** Roads that drain toward waterways can be major contributors of sediment. Roads must be safe to travel while having a minimal effect on waterways in the watershed. Practices to address erosion from roads aim to reduce the concentration of flow from roads, slowing the rate of water running off of the land and discharging accumulated waters more frequently to areas away from waterways.

**Purpose:** To identify practices currently in use and intended for implementation to slow, spread and sink runoff from the roads, particularly unpaved roads.

Where potential concerns are identified, please reference the conservation practice recommendations noted below.

Question	Potential Concern	Location ( <i>pasture/field</i> ) & Describe Condition	Cause <sup>1</sup> (C, H, or N)
<b>ROADS*</b>			
R1. Surface erosion present on road(s) (rills, gullies)? <i>If potential concern noted, consider practices listed in Table R2 below</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
R2. Culverts or ditches cause gullies or erosion? <i>If applicable, please complete the <b>Road Crossing Data Form</b> as noted below. Make a copy of the data form for each crossing. Consider practices in Table R1 below, as appropriate.</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
R3. Sediment fills drainage ditches after winter? <i>If potential concern noted, consider practices listed in Table R2 below</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		

<sup>1</sup>: Note any recorded problem conditions as caused by: Current livestock management (C); a Historical legacy site (H); or Natural causes (N).

**ROADS ON THE PROPERTY**

R4. Roads on the property cross waterways.

Yes (Please map these locations. For unpaved roads, complete the **Road Crossing Data Form** that follows for each crossing. Consider practices in Table R1 below, as appropriate.)

No

R5. Road surfaces, fills and cutbanks on the property appear to be stable (i.e. they do not show signs of excessive erosion such as riling, cut-bank failure, or slumping)

(Complete the **Road Culvert Inventory Form** (below) for culverts that cross roads such as ditch relief culverts.)

Yes

No (Consider practices listed in Table R2 for unstable areas)

R6. All roads on the property are necessary and utilized.

Yes

No (Consider practice #14, listed in Table R2 below)

**ROAD CROSSING DATA FORM**

Complete this data form for each place that roads cross a waterway. Make a copy of the form for each crossing. As applicable consider treatment options provided and complete Conservation Practice Tables R1 and R2.

ROAD CROSSING DATA FORM			
<b>GENERAL</b>	Site #:	Road ID/Name:	Date:
			Site located up-stream of pond/reservoir (Y,N): <input type="checkbox"/> Yes <input type="checkbox"/> No
Are fill slopes or adjacent stream banks actively eroding (Y, N): <input type="checkbox"/> Yes <input type="checkbox"/> No			
(If yes see treatment option 3, 13, 14, 15 in Table R1)			

<b>STREAM CROSSING TYPE</b> (Circle one)	Bridge, Bottomless Arch, or Box. (If yes, skip down to 'Road Drainage' section)	Culvert (round or oval) (If yes, go to 'Culverted crossing info' section)	Wet Crossing (Ford, Armored Fill, Fill, or Pulled crossing) (If yes, go to 'Wet crossing' section)
<b>Culverted Crossing info</b>	Is rust/silt line at inlet of culvert greater than half the diameter of the culvert (Y, N): <input type="checkbox"/> Yes <input type="checkbox"/> No (If yes, see treatment options 4, 5, 8 in Table R1).		Is Inlet of culvert greater than 20% crushed or plugged (Y, N): <input type="checkbox"/> Yes <input type="checkbox"/> No (If yes, see treatment options 3, 7, 8 in Table R1).
	Is culvert bottom rusted or separated (Y, N): <input type="checkbox"/> Yes <input type="checkbox"/> No (If yes, see treatment options 4, 5, 7, 8 in Table R1).		Does the Culverted stream crossing have diversion potential (Y, N): <input type="checkbox"/> Yes <input type="checkbox"/> No (If yes see treatment options 9, 10 in Table R1)
<b>Wet crossing info</b>	Is crossing dipped wide enough to keep flows within natural stream channel (Y, N): <input type="checkbox"/> Yes <input type="checkbox"/> No (If no see treatment option 3 in Table R1)	At Armored Fill crossing, is armor adequate enough to prevent fill material from eroding (Y, N): <input type="checkbox"/> Yes <input type="checkbox"/> No (If no see treatment option 14 in Table R1)	
	Does crossing look to be actively eroding (Y, N): <input type="checkbox"/> Yes <input type="checkbox"/> No (If yes see treatment options 3, 14 in Table R1)		

<b>ROAD DRAINAGE TO STREAM CROSSING</b>	Left <u>road/avenue</u> length(s) draining down to site (ft):  (If greater than 150ft see treatments options in Table R2)	Road Surface (paved, rocked, native):	Avg. width (ft):
	Right <u>road/avenue</u> length(s) draining down to site (ft):  (If greater than 150ft see treatments options in Table R2)	Road Surface (paved, rocked, native):	Avg. width (ft):

<b>COMMENT ON CROSSING AND ASSOCIATED ROAD LENGTH(S):</b>

**ROAD CULVERT INVENTORY FORM**

Complete this data form for ditch relief culverts that cross a roadway.

<b>ROAD STREAM CROSSING INVENTORY FORM</b>									
Landowner/Property Name:			Date:		Road ID/Name:		Road Surface:		Road Use:
Site #:	Crossing Type*	Site located up-stream of pond/reservoir (Y,N)	Site Stable?	Left Road Approach Length	Right Road Approach Length	Headwall Height (ft)	Diversion Potential (Y,N)	Comments**	Potential Treatment Options (Refer to tables R1 and R2 below)
			If no, consider practice 2 in tables R1 and R2 below	If greater than 150 ft, consider, practices 3 or 4 in Table R2 below.	If greater than 150 ft, consider, practices 3 or 4 in Table R2 below.		If yes, consider practice 9 or 10 in Table R1 below		

**Table R1: Treatment Options to Reduce Erosion and Manage Stability at Stream Crossings**

The following table provides an assortment of management practices that are intended to protect water quality. Implementation of all practices is not necessary or required. Selection of practices must be done on a site-specific basis. An assortment of practices to protect water quality and to suit your circumstance should be selected. NRCS Practice Titles are provided for your reference and you may contact your local NRCS or RCD field office for technical and/or possible financial assistance.

<i>Practices (at stream crossing)</i>	<i>NRCS Practice Title</i>	<i>Current Practice</i>	<i>Recommended Practice</i>
1. No treatment at site	--	<input type="checkbox"/>	--
2. Consult a Professional		<input type="checkbox"/>	<input type="checkbox"/>
3. Excavate soil	Earthfill (903)	<input type="checkbox"/>	<input type="checkbox"/>
4. Install bridge	Stream Crossing (578)	<input type="checkbox"/>	<input type="checkbox"/>
5. Construct Armored-fill crossing <i>(See typical drawings 5a, 5b, 6, 7)</i>	Stream Crossing (578)	<input type="checkbox"/>	<input type="checkbox"/>
6. Construct a Ford crossing <i>(See typical drawing 5a)</i>	Stream Crossing (578)	<input type="checkbox"/>	<input type="checkbox"/>
7. Repair culvert	Access Road (560)	<input type="checkbox"/>	<input type="checkbox"/>
8. Install or replace culvert <i>(See typical drawing 2, 4)</i>	Access Road (560)	<input type="checkbox"/>	<input type="checkbox"/>
9. Construct critical dip <i>(See typical drawing 1c)</i>	Access Road (560)	<input type="checkbox"/>	<input type="checkbox"/>
10. Install critical culvert	Access Road (560)	<input type="checkbox"/>	<input type="checkbox"/>

11. Remove screen from culvert inlet	Access Road (560)	<input type="checkbox"/>	<input type="checkbox"/>
12. Install trash rack (SB, GP, I-B) <i>(See typical drawing 3)</i>	Access Road (560)	<input type="checkbox"/>	<input type="checkbox"/>
13. Armor fill face <i>(See typical drawing 1b, 4)</i>	Lined Waterway or Outlet (468) and Rock Riprap (907)	<input type="checkbox"/>	<input type="checkbox"/>
14. Armor below outlet <i>(See typical drawing 1b)</i>	Lined Waterway or Outlet (468) and Rock Riprap (907)	<input type="checkbox"/>	<input type="checkbox"/>
15. Other		<input type="checkbox"/>	<input type="checkbox"/>

**Table R2: Treatment Options to Reduce Erosion from Road Surfaces**

The following table provides an assortment of management practices that are intended to protect water quality. Implementation of all practices is not necessary or required. Selection of practices must be done on a site-specific basis. An assortment of practices to protect water quality and to suit your circumstance should be selected. NRCS Practice Titles are provided for your reference and you may contact your local NRCS or RCD field office for technical and/or possible financial assistance.

<i>Practices (along road lengths)</i>	<i>NRCS Practice Title</i>	<i>Current Practice?</i>	<i>Recommended Practice (Note Site ID#)</i>
1. No treatment at site	--	<input type="checkbox"/>	--
2. Consult a Professional		<input type="checkbox"/>	<input type="checkbox"/>
3. Construct rolling dips <i>(See typical drawings 10, 11, 19a-c.)</i>	Access Road (560)	<input type="checkbox"/>	<input type="checkbox"/>
4. Install Speed bumps on paved road	Access Road (560)	<input type="checkbox"/>	<input type="checkbox"/>
5. Outslope road & remove ditch <i>(See typical drawings 9a-c)</i>	Access Road (560)	<input type="checkbox"/>	<input type="checkbox"/>

6. Outslope road & retain ditch – ensure that outlet is located in a stable location <i>(See typical drawings 9a-c)</i>	Access Road (560)	<input type="checkbox"/>	<input type="checkbox"/>
7. Inslope road – ensure that ditch outlets to a stable location <i>(See typical drawings 9a-c)</i>	Access Road (560)	<input type="checkbox"/>	<input type="checkbox"/>
8. Crown road <i>(See typical drawings 9a-c)</i>	Access Road (560)	<input type="checkbox"/>	<input type="checkbox"/>
9. Install/Replace ditch relief culvert – ensure that outlet is located in a stable location <i>(See typical drawing 8)</i>	Access Road (560)	<input type="checkbox"/>	<input type="checkbox"/>
10. Cut/clean ditch	Diversion (362) and Access Road (560)	<input type="checkbox"/>	<input type="checkbox"/>
11. Rock armor ditch – ensure that ditch outlets to a stable location	Lined Waterway or Outlet (468)	<input type="checkbox"/>	<input type="checkbox"/>
12. Construct Water bars <i>(See typical drawing 20)</i>	Access Road (560)	<input type="checkbox"/>	<input type="checkbox"/>
13. Construct cross road drains <i>(See typical drawing 17)</i>	Access Road (560)	<input type="checkbox"/>	<input type="checkbox"/>
14. De-compact road surface <i>(See typical drawing 17)</i>	Road/Trail/Landing Closure and Treatment (654)	<input type="checkbox"/>	<input type="checkbox"/>
15. Other		<input type="checkbox"/>	<input type="checkbox"/>



### 3.10 MANURE STORAGE & NUTRIENT MANAGEMENT

**Background:** Although animal waste are organic biodegradable materials, many of their biological and chemical properties can be detrimental to fish, insects and other aquatic life if those wastes get into local waterbodies. Ranch owners should develop a waste management plan to ensure clean and safe facilities, protect creeks and ground water, reduce odors and insect breeding opportunities. Effective manure management helps protect water quality.

**Purpose:** Identify practices currently in use and that are intended for implementation to:

- ✓ Keep surface runoff (stormwater) away from manure storage areas; divert clean water away from manured areas in a non-erosive manner.
- ✓ Keep manure storage areas away from drainages and water bodies.
- ✓ Keep drainage from manure from percolating down into soil- especially in areas where groundwater protection is a priority.
- ✓ Cover manure.
- ✓ Make access to storage areas convenient, size them adequately and have a contingency plan for when waste volume exceeds capacity.

Where potential concerns are identified, please reference the conservation practice recommendations noted below.

Question	Potential Concern	Location ( <i>pasture/field</i> ) & Describe Condition	Cause <sup>1</sup> (C, H, or N)
<b>PATHOGENS AND NUTRIENTS*</b>			
<b>MANURE MANAGEMENT</b>			
M1. Manure stockpile runoff connects to stream? <i>If potential concern noted, consider practices #1 and 2 in table M1.</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
M2. Manure applied to pasture less than 2 weeks before a runoff generating rain storm? <i>If potential concern noted, consider practice #5 in table M1.</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
M3. Manure applied to pastures is stored (aged) less than one month? <i>If potential concern noted, consider practices #7 and 8 in table M1.</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		

<sup>1</sup>: Current livestock management (C); a Historical legacy site (H); or Natural causes (N).

**Manure Storage Areas (complete if applicable)**

M4. Are manure storage areas located on high ground, above likely flood levels?

- Yes
- No (Consider practice #1, listed in table M1 below)

M5. Is your manure storage area covered by a roof?

- Yes
- No (Consider practice #3, listed in table M1 below)

M6. Is your manure storage area located near a drainage way, spring, pond, creek or other waterbody?

- Yes, (Please answer A and B below)
  - No.
- A. How far is the nearest waterway/waterbody? \_\_\_\_\_feet
- B. Is there a vegetated (grass or other) filter strip between the storage area and the waterway/waterbody?
- Yes
  - No (Consider practice #2 in table M1 below)

M7. Is your manure storage area located near a water supply well? Make sure to identify the locations of wells on your site map.

- Yes, (Consider practice #1, listed in table M1 below)
- No.

M8. Please list other manure stockpiling/storage plans or strategies not identified above.

Describe as needed:

**Nutrient Management**

M9. Do you spread or plan to spread manure on site?

- Yes (Please answer A through I below and consider practice #5, listed in Table M1 below)
- No

A. Describe the location, frequency and method of spreading.

B. Is the manure being spread as fertilizer or soil conditioner or both? \_\_\_\_\_

C. Will it be disked? When? During the wet season or under what conditions?

D. What equipment is available to do this work? \_\_\_\_\_

E. What type of vegetation is present where and when the manure is to be spread?

F. How many years have you been spreading manure in the same location? \_\_\_\_\_

G. Have you taken soil samples to evaluate available levels of nutrients in your soil?

Yes     No (Consider practice #6, listed in Table M1 below)

H. Describe your contingency plan if your storage capacity is exceeded before manure can be spread.

I. Is there a vegetative buffer strip or grass filter strip between the spreading area and drainage ways, wells, or water bodies to trap pollutants?

Yes     No (Consider practice #2, listed in Table M1 below)

M10. Do you apply nutrients/fertilizers other than manure/composted manure?

Yes (List other sources)     No

List:

M11. Fertilizer amount and application timing is prescribed based on crop needs, identified by inspection and/or testing.

Yes       No      (Consider practice #4, listed in Table M1 below)

M12. Fertilizer(s) are applied with calibrated equipment.

Yes       No      (Consider practice #5, listed in Table M1 below)

Describe as needed:
---------------------

**Table M1: Conservation Practices for Manure Storage and Nutrient Management**

The following table provides an assortment of management practices that are intended to protect water quality. Implementation of all practices is not necessary or required. Selection of practices must be done on a site-specific basis and an assortment of practices to protect water quality and to suit your circumstance should be selected. NRCS Practice Titles are provided for your reference.

<i>Practice</i>	<i>NRCS Practice Title</i>	<i>Current Practice</i>	<i>Recommended Practice</i>
1. Move manure storage areas to high ground and/or away from waterways and water supply wells		<input type="checkbox"/>	<input type="checkbox"/>
2. Plant a vegetative filter strip	Filter Strip (393)	<input type="checkbox"/>	<input type="checkbox"/>
3. Cover pile with tarp when saturated		<input type="checkbox"/>	<input type="checkbox"/>
4. Consult and follow UCCE crop requirements	Nutrient Management (590)	<input type="checkbox"/>	<input type="checkbox"/>
5. Time manure/fertilizer application to reduce runoff and leaching	Nutrient Management (590)	<input type="checkbox"/>	<input type="checkbox"/>
6. Collect soil samples to assess available levels of soil nutrients	Nutrient Management (590)	<input type="checkbox"/>	<input type="checkbox"/>
7. Compost animal manure on a containment facility	Composting Facility (317)	<input type="checkbox"/>	<input type="checkbox"/>
8. Monitor compost temperature	Composting Facility (317)	<input type="checkbox"/>	<input type="checkbox"/>

### 3.11 AGRICHEMICALS (IF APPLICABLE)

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**Background:** Agrichemicals (organic and/or synthetic nutrients and/or pesticides, including herbicides and sulfur) that move from the site of application into surface water can affect water quality by negatively impacting human, animal and/or non-target organism health. Nutrient sources associated with agricultural production practices may include organic and inorganic fertilizers, biodegraded crop residues, and agricultural wastes (grape pomace and waste directly generated by animals). Wind and water erosion of soil or aerial drift from agrichemical applications may contribute to pesticide movement away from the target area. Agrichemicals may enter surface waters during overland runoff and tile drainage either as water-soluble residuals or adsorbed to sediments. Nutrients from these sources become pollutants when they are transported off-site into nearby streams and lakes or percolate in excessive amounts of groundwater. Nitrates and phosphates in surface water bodies contribute to eutrophication, the increases in aquatic plants and algal blooms that deplete dissolved oxygen, impacting aquatic organisms. All shall be maintained free of toxic and biostimulatory substances in lethal or detrimental concentrations.

**Purpose:** To identify practices, currently in use or intended for implementation, ensure agrichemicals (fertilizers, soil nutrients, compost and pesticides) are stored, mixed and applied in a manner consistent with all applicable regulations, including those required by the California Department of Pesticide Regulation (DPR) and the County Agricultural Commissioner, and in a manner that prevents excess agrichemicals from reaching surface and groundwater.

A1. Agrichemicals are stored properly (per the label) on-site.

- Yes (Make sure to map this location on your maps)
- No (Consider practice # 1, listed in Table A1 below)
- No agrichemicals are stored on-site. Skip this section.

Describe as needed:

A2. Agrichemical mixing, loading, and rinsing are conducted on a containment facility.

- Yes (Map this location on your maps)
- No (Consider practices # 2 through 5, listed in Table A1 below)
- No mixing, loading, or rinsing on-site.

Describe as needed:

A3. Agrichemicals not handled on a containment facility are mixed, loaded and rinsed away from aquatic habitat and wells.

Yes

No (Consider practices #2 through 5, listed in Table A1 below)

Describe as needed:
---------------------

**Table A1: Conservation Practices for Agrichemical Storage, Preparation and Disposal**

The following table provides an assortment of management practices that are intended to protect water quality. Implementation of all practices is not necessary or required. Selection of practices must be done on a site-specific basis and an assortment of practices to protect water quality and to suit your circumstance should be selected. NRCS Practice Titles are provided for your reference.

<i>Conservation Practice</i>	<i>NRCS Practice Standard Title</i>	<i>Current Practice</i>	<i>Recommended Practice</i>
1. Consult a Professional		<input type="checkbox"/>	<input type="checkbox"/>
2. Use an impervious containment pad for agrichemical handling	Agrichemical Handling Facility (309)	<input type="checkbox"/>	<input type="checkbox"/>
3. Provide securable agrichemical handling	Agrichemical Handling Facility (309)	<input type="checkbox"/>	<input type="checkbox"/>
4. Move agrichemical handling away from aquatic habitat and wells	Nutrient Management (590)	<input type="checkbox"/>	<input type="checkbox"/>
5. Train employees on safe agrichemical handling	Nutrient Management (590)	<input type="checkbox"/>	<input type="checkbox"/>
Other:		<input type="checkbox"/>	<input type="checkbox"/>

**Pest Management**

P1. The facility operates under a current Pesticide Use Permit filed with the County Agricultural Commissioner.

Yes, provide Pesticide Use Permit # and attach a copy of permit to this Ranch Plan.

No (Consider practices # 1 and 2, listed in Table P1 below)

Describe as needed:

P2. UC-IPM guidelines are followed (<http://www.ipm.ucdavis.edu/PMG/selectnewpest.small-grains.html>)

Yes, indicate current practices below.       Some

No (Consider practices # 3 through 6, listed in Table P1 below)

Describe as needed:

P3. Alternative, non-chemical pest control methods are used when and where practical.

Yes, indicate practices below

No

Describe as needed:

**Table P1: Conservation Practices for Pest Management Practices**

<i>Practice</i>	<i>NRCS Practice Standard Title</i>	<i>Current Practice</i>	<i>Recommended Practice</i>
1. Consult a Professional		<input type="checkbox"/>	<input type="checkbox"/>
2. Apply pesticides under a Pesticide Use Permit		<input type="checkbox"/>	<input type="checkbox"/>
3. UC-IPM: Implement appropriate guidelines for small grains	Integrated Pest Management (595)	<input type="checkbox"/>	<input type="checkbox"/>
4. UC-IPM: Scout for pests	Integrated Pest Management (595)	<input type="checkbox"/>	<input type="checkbox"/>
5. UC-IPM: Maintain pest management records	Integrated Pest Management (595)	<input type="checkbox"/>	<input type="checkbox"/>
6. UC-IPM: Use chemicals that are lowest risk to water quality	Integrated Pest Management (595)	<input type="checkbox"/>	<input type="checkbox"/>
7. Calibrate application equipment (sprayers and injectors) regularly	Integrated Pest Management (595)	<input type="checkbox"/>	<input type="checkbox"/>
8. Dispose of containers properly	Integrated Pest Management (595)	<input type="checkbox"/>	<input type="checkbox"/>
9. Train employees per OSHA & MSDS	Integrated Pest Management (595)	<input type="checkbox"/>	<input type="checkbox"/>
Other:		<input type="checkbox"/>	<input type="checkbox"/>



**4. ADDITIONAL GOALS, INTERESTS OR CONCERNS**

Please describe any other natural resource-related goals, interests or concerns identified during the planning process but not otherwise noted in this plan.

Describe as needed:

**5. COMPLETED WATER QUALITY PROJECTS/CONSERVATION PRACTICES (OPTIONAL)\***

List all past water quality concerns on the ranch/farm and describe the issue. A concern does not indicate that livestock grazing or current management caused it. Describe any previously implemented management practice(s) intended to fix the problem. This includes steps to plan or receive technical/financial assistance, actual implementation or management changes, and the maintenance of projects or ranch infrastructure (cleaning culverts, scraping corrals, weed removal, etc.). Evaluate if more work is needed to improve water quality for each listed concern. Attach any old photographs of the concern including work completed if available. Use additional sheets if needed.

Water Quality Concern		Location (pasture/ field)	Conservation Practice(s) Completed (with NRCS Practice Names and Numbers, if applicable)	Maintenance Needs	Evaluation (Is more work needed?)	Photo Avail.?
#	Describe					

## 6. MAPS

## 7. ADDITIONAL RESOURCES

## 8. PHOTO MONITORING AND PHOTO PLATES

**Purpose:** To describe the methods and protocols that will be used to carry out visual monitoring and site inspections, including: annual monitoring, site readiness inspections, and management practice monitoring and evaluation. Monitoring is conducted to document that sediment control practices outlined in the LandSmart™ Plan are implemented, that the practices are effective and that they are properly maintained.

Label on Map	Indicate area type (Pasture management, roads and crossings, waterways, etc).	Date	Photo Taken? Y or N	Condition (performing properly, needs maintenance, needs consultation)	Actions taken