Outdoor Hog Production:

Best Practices for Conservation in the San Francisco Bay Area

Conservation Practices for Outdoor Hog Systems

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The Natural Resources Conservation Service (NRCS) is an agency of the USDA tasked with promoting conservation on working lands though financial and technical assistance. Farm or ranch conservation planning is one of the many services provided by the NRCS for interested producers. The NRCS' Environmental Quality Incentives Program (EQIP) can then be utilized to help share the cost of specific conservation improvements identified within the conservation plan.

What follows is a description of various practices developed by NRCS that directly support outdoor hog management best practices in California and how they might be utilized. The chart also includes an explanation of how these practices would address potential natural resource concerns. To learn more about the NRCS and its programs, contact your local office by visiting http://offices.sc.egov.usda.gov/locator/app?state=CA.

Resource Conservation Practice	Practice Description	Application in Outdoor Hog System
Compost Facility 	A structure to contain and facilitate the aerobic transition of animal manure and/or plant waste into stable organic matter suitable for use as soil amendment.	Use to manage hog manure and bedding for animals in confined or deep-bedded systems. • Will address potential nutrient loading in soil, runoff or leaching associated with accumulated hog manure
Cover Crop 	Crops including grasses, legumes and forbs planted seasonally to reduce erosion, increase soil organic matter, suppress weeds, manage soil moisture, minimize compaction and support other goals.	Use as part of integrated cropping/hog production system – where cover crop can be grazed after achieving its resource goal. Can also be used between forage crops in pasture systems to build soil or replenish nutrients for enhanced forage production. Cover crops provide the following benefits: • Promote nutrient recycling or redistribution within soil • Reduce compaction in soil after use by hogs • Suppress weeds resulting from disturbed soil • Provide soil cover in rotationally used paddocks after hogs are removed

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Fencing – permanent or temporary 	A constructed barrier to animals or humans. May include permanent fencing such as woven, barbed, smooth and high tensile wire as well as temporary fencing such as electric.	Use to exclude animals from sensitive habitat or riparian areas and/or to create cross fencing to facilitate improved rotation and distribution of animals across a field. Appropriate fencing provides the following benefits: • Facilitates rotational grazing which can help to minimize disturbance, compaction, and nutrient loading associated with permanent systems (animals are not rotated through fields/paddocks) Note: NRCS does not assist with perimeter property fencing.
Field Border/Windbreak 	A strip of permanent vegetation, often trees or shrubs, established at the edge of a field to create a physical barrier with resource benefits both on- and off-site.	Establish at the perimeter of a hog operation to provide the following benefits: • Minimize erosion from wind and water • Create a visual barrier for outdoor hog operation as well as minimizing the impact of odor, noise or dust on neighbors • Intercept dust or other off-site particulate matter from entering the operation • Provide shade, shelter and possibly nesting material and forage for hogs as well as other beneficial organisms • Protect animals and plants from wind damage
Filter Strip 	A strip of herbaceous vegetation used to remove contaminants from overland flow and/or reduce erosion. Filter strips are established adjacent to sensitive areas to minimize impact from contaminants or sediment.	Establish upslope of sensitive habitat and adjacent to heavy use areas such as feeders, waterers, shelters or farrowing areas to provide the following benefits: • Intercept sediments, nutrients, and pathogens in runoff from entering sensitive habitats, waterways or otherwise leaving the production site
Forage & Biomass Planting (for pasture) or Range Planting (for range) 	Establishing herbaceous species suitable for grazing or the production of hay or biomass.	Use to establish forage appropriate for hogs in pasture/range based systems, including hay or other dry forage. Forage planting can assist with the following resource concerns: • Improve soil cover during low forage periods, thereby reducing erosion and improving soil and water quality

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Heavy Use Area Protection 	Stabilizing areas heavily used by livestock, such as feeders or waters, by establishing vegetative or permanent cover. May include the use of materials such as gravel or cement.	Establish stable non-eroding surfaces in locations with heavy use such as feeders, waterers, farrowing areas or shelters to provide the following benefits: • Minimize rooting and wallowing, particularly around water facilities or sites for liquid feed such as whey or milk • Minimize compaction and erosion impacts from excessive animal traffic, wallowing, and rooting • Improve livestock health
Mulch 	Applying (or maintain) plant residues, such as wood chips, straw or other materials to the land surface. In some cases this may include inorganic mulches such as plastic.	Apply around high use areas such as feeders, waterers, shelters or farrowing areas to minimize erosion, compaction and nutrient loading.
Nutrient Management 	Analyzing and managing nutrient deposition, including manure, to maintain or improve the condition of soil and vegetation.	Use to assess impacts of hog manure, particularly in high use areas, and consider alternative management and utilization options. This practice may provide the following benefits: • Improve soil, water and air quality • Increase availability of composted hog waste to improve forage quality and quantity.
Riparian Forest Buffer 	An area of woody vegetation such as trees and shrubs located next to or up-slope from riparian areas or waterways. Buffers should generally be combined with filter strips to avoid bare ground between trees or shrubs.	Use to support the health of riparian areas and waterways including the following: • Reduce the amount of sediment, organic material, nutrients or pathogens in surface runoff. • Create shade to lower water temperature, which might also provide shade to adjacent livestock.

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Watering Facility 	A permanent or portable structure to provide livestock water.	Use in concert with a rotational grazing plan and/or cross-fencing to help provide the following: • Improve distribution of hogs across a pasture or paddock and more evenly utilize forage • Reduce the number of high impact areas in light of improved distribution Note: facilities must be at least 300’ from a creek or spring

Photo credit from top to bottom: Pg. 1 Compost photo courtesy of the ACRCD; Red clover photo courtesy of Rebecca Wilson; Hogs in fence courtesy of Robin Webster; Filter strip courtesy of NRCS; Windbreak photo courtesy of Silvana Pietrosemoli; Forage photo courtesy of Silvana Pietrosemoli; Heavy use photo courtesy of Silvana Pietrosemoli; Mulch Photo courtesy of Hidden Villa; Nutrient management photo courtesy of Long Ranch; Riparian forest buffer courtesy of Root Down Farm; Watering facility photo courtesy of Silvana Pietrosemoli