Making Wildlife Habitat and Clean Farming Compatible

John Anderson, Owner/Operator, Hedgerow Farms, Winters, CA
Liz Goebel, Product Operations and Outreach Coordinator, Hedgerow Farms, Winters, CA

Photo credits: John Anderson

Canal planted with *Carex* species and *Muhlenbergia rigens,* native grass and sedge species that reduce bank erosion and increase water quality

Updated and adapted from *Bringing Farm Edges Back to Life: Landowner Conservation Handbook*, with permission from the Yolo County Resource Conservation District

Farmers, land managers and agricultural advisors have begun to realize the long-term impacts of the traditional approach of "clean farming." The practice of keeping all land that isn't planted to a crop either disced or sprayed clean has resulted in cumulative soil and organic matter losses and sediment buildup in unwanted areas. In many cases, attempts to keep ground "clean and bare" are unsuccessful, and they instead turn into reservoirs of unwanted weeds and thus seeds that then spread into the cropland. Bare ground also results in a reduction in surface and groundwater quality and quantity as runoff increases.

The results are a monetary cost to the farmer, a cost to the land in the proliferation of weeds and other problems, and an overall loss of valuable habitat. Are there farm-friendly solutions to these challenges that do not threaten productivity and that help reduce erosion, improve water quality, and save labor or chemical costs in the long run? Have we forgotten that the goal of "clean" farming should be weed-free, not vegetation-free?

Current farming practices in most of California's intensively farmed areas have dramatically reduced or eliminated wildlife habitat within agricultural systems. The impulse to maintain borders, berms, and roadsides without vegetation, as well as use all available farmland for production, results in a brown, barren landscape that lasts from plowdown in the fall until spring planting. One impact of successful farming is the unfortunate, lifeless state of vast acres once so important to the myriad species that inhabited our most productive farming areas. More and more, "productivity" is judged by measuring only intensively cultivated monocultures, not whole agricultural ecosystems.

In our view there is no inevitable, long-term conflict between good farming and biodiversity. Threats to biodiversity come not so much from increased agricultural traffic, but from a lack of natural habitat. When farmers believe that only one version of "clean farming" is economically viable, the result is a lack of habitat.

The number-one reason for bare-dirt clean farming is to control the invasion of noxious weeds. This is certainly a valid concern since any area of bare and disturbed soil will be rapidly colonized by a host of nasty and unsightly vegetation. Several

Roadside planting of *Nassella pulchra, Grindelia camporum,* and very few weeds

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species of weeds have also developed resistance to commonly used herbicides, making their eradication even more difficult. Star thistle, annual ryegrass, puncture vine, Johnson grass, bindweed, and mustard are but a few of the undesirables we continually spray and disc to eliminate.

The number-two reason for bare-dirt farming is the idea that habitat borders will harbor pest insects and rodents that can harm crop yields. Habitat borders also come under attack because of food safety issues stemming from the presence of wildlife (for example, *E. coli* and *salmonella*).

Lastly, bare-dirt farming has become the accepted, automatic practice. Border vegetation implies sloppy farming—what will the landlords, neighbors, or bankers think?

What can be done to reverse the current scenario without impacting the agricultural livelihood of California? Certainly most farmers appreciate wildlife, and evidence suggests that a biodiverse border of plant species provides habitat for many beneficial insects, pollinators, and predators (such as raptors, bats, and reptiles).

Instead of a high maintenance, bare-dirt system, we propose a balanced, self-sustaining multispecies perennial grassland that outcompetes any weedy invasion. Corridors of mixed native perennial grasses and forbs along roadsides, berms, ditchbanks, canals, field borders and any non-cropped areas provide excellent year-round habitat for wildlife without a negative impact on overall farming practices. Incorporating patches of native shrubs and/or trees into these corridors greatly increases biodiversity and habitat value. More recently, perennial flowering forbs are being incorporated into the system to provide pollen and nectar for beneficial insects and pollinators year-round.

The Yolo County Resource Conservation District works closely with landowners to plan and install hedgerow, roadside, and tailwater pond plantings and promote good stewardship of our farmland. Audubon California also has a Yolo and Solano County-based program, the Landowner Stewardship Program, which installs and maintains similar restoration projects on privately owned land. The success of both programs illustrates that habitat and clean farming are compatible. Without question, native grassland habitat areas provide weed and erosion control, reduce maintenance, and greatly enhance the biodiversity and aesthetics of farm landscapes.

Tailwater ponds like this one in Yolo County provide habitat for terrestrial and aquatic creatures and improve agricultural runoff water quality.

Bruce and Rich Rominger, who farm ground adjacent to established corridors, have not seen any significant negative impact on their crop production. In fact, the most difficult aspect of farming with corridors is training tractor drivers to recognize the borders and avoid discing

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Roadside planting and hedgerow form a habitat corridor useful to birds, mammals, and insects.