



United States Department of Agriculture
Natural Resources Conservation Service
www.ca.nrcs.usda.gov

Hedgerows for Habitat & Haven: In the Large Landscape, in the Garden

The NRCS's collaborations with agricultural landowners strive to make life better for us all...

By Jennifer Jewell
Jewellgarden.com



One of Fred Stolp's established hedgerows running along one of his young walnut orchards.

"For all our grumbling about wasteful and purposeless government spending, I look at this project and think to myself: 'Now this is money well spent,'" said Emily Alma, co-owner with five others since 1987 of Riparia, an organic 12-acre farm in southwest Chico. She was referring to Riparia's partnering with the Natural Resource Conservation Service (NRCS), a division of the United States Department of Agriculture.

Since late 2009, Riparia, with the help and under the guidance of the NRCS, has incorporated several conservation programs into the care of their land, including cover-cropping, and the planting and tending of riparian-forest buffer zones, native bunch grass cover areas, wildlife habitat management areas and hedgerows.

Riparia is actively worked by two separate farmers who lease land from the Riparia partnership and all involved help to implement these conservation programs throughout the farm.

The NRCS, according to their Web site www.nrcs.usda.gov, works to help agricultural producers — farmers and ranchers — conserve and improve their land's natural resources including "soil, water, air, plants, and animals," while also helping them to achieve their "aspirations" of making a living. The NRCS's collaborations with agricultural landowners strive to make life better for us all — from the smallest of flowering plants to the widest expanse of orchard — from the smallest of insects to the largest of mammals — including us humans.

Riparia's 825 feet of hedgerow planted out to NRCS specifications in fall of 2010 are still babies - in their first spring. Alma looks forward to the day when they grow up to be like the hedgerows in and around the Durham orchards of third generation farmer, Fred Stolp.

When asked recently what his favorite thing about his now-going-on-four-year old hedgerows is, Stolp answered: "They are just so pretty — full of life. They look natural and blend into the native landscape."

Stolp and his family have 275 working acres of walnut in part flanking the Durham slough.



Emily Alma standing in one of her favorite spots along Comanche Creek.



Big-leaf maple seed clusters in one of Stolp's hedgerows.

Stolp, who has approximately two miles of NRCS cost-shared hedgerows, was “one of the early visionaries and pioneers” in implementing several NRCS conservation strategies — the most extensive being his hedgerows, according to Dan Taverner, the NRCS District Conservationist for Butte County. NRCS staff including Taverner and Rachel Morgan, a Soil Conservationist, serve as coordinators in helping agricultural landowners successfully implement NRCS programs.

The NRCS, under the aegis of the USDA and administered through county-based offices around the country, began as a soil conservation agency in the late 1920s and 1930s. Many current programs were initially funded in the 2002 Farm Bill and extended with the 2008 Farm Bill. Stolp and Riparia are two of about 10 farmers/farms in the Butte County district working on cost-sharing conservation incentive contracts. When an agricultural producer contracts to participate, they agree to follow NRCS specifications for how to plant a hedgerow for best environmental results, and to maintain it — including tasks like keeping up with weed suppression, irrigation and replacing any plants that die — for a certain period of time. In return — and using a formula generated from statewide cost averages — the landowners are reimbursed for half of the costs of labor and materials needed to establish the hedge.

Stolp’s dense hedge — maybe 7 feet high and 20 feet wide — was active with hummingbirds, songbirds and soaring birds of prey — a tapestry of different shades of green, textural with different heights, widths and forms of plants — from tall, lanky and arching willow-like “mule fat” to densely rounded, rigid buckbrush.

Young redbud peapods indicated earlier bloom, while white yarrow, red mallow, spicebush and red salvia were all coming into bloom. Hibiscus, narrow-leaved milkweed and buckwheat were greening up for mid-and late summer bloom. The opening buds of a coffeeberry shrub were a hub of activity with the buzzing, rolling, and darting of all manner and size of native and non-native pollen collecting bees.



NRCS Field Conservationist Dan Taverner and walnut farmer Fred Stolp standing in front of one Stolp’s several hedgerows.



A variety of native trees, shrubs and perennials give the hedgerow a variety of habitats for pollinators, birds and other wildlife to find food, shelter and nesting sites. Staggered bloom and seed/fruit production provide forage almost year-round. Here, red salvia, white yarrow and coffeeberry are coming into bloom as earlier spring flowers fade.

“We have many conservation initiatives, but the hedgerows are perhaps the most beautiful — as elements in the landscape and as conservation tools,” elaborated Taverner.

These hedges of mixed plant types address air quality by absorbing carbon and diminishing wind and airborne dust and pollutant distribution; they address water quality issues by filtering and slowing rainfall, allowing runoff to percolate slowly into the soil and water table; they address soil quality by supporting and encouraging soil biology through healthy and extensive root systems and diminishing soil erosion; and they support feeding and housing pollinator, beneficial insect and wildlife populations which in turn increase pollination of food crops and help to control pest populations. This last part is critically important to farmers hoping to cut their expenditures and reliance on imported pollinators and/or chemical pesticides.

The term “hedgerow” dates back to the old English (pre-1149 A.D.) term for wide strips of natural wild or woodland left to mark or enclose property boundaries, working fields and/or roadways. With greater human land use, these hedgerows became — and remain to this day — important corridors and habitats for wildlife, insect and plant populations.



Blue flax lights up the hedgerow in front of a toyon bush whose bright red berries will attract birds in the fall and winter months.

Recently, hedgerows have been recognized by environmental scientists as ideal low-cost, low-impact tools for multi-resource conservation.

In order to have successful habitat hedge, Stolp and Taverner emphasize, “It’s important to have something in bloom as much of the year as possible as well as having as long and wide a stretch of hedge as possible in order to provide year round shelter, nesting space and food.”

Using materials researched and developed by a consortium of groups, including the NRCS Plant Materials Centers across the country as well non-profits such as the Xerxes Society for Invertebrate Conservation out of Portland, Ore., landowners who contract to partner with the NRCS are supplied with lists of good habitat plants for their region including information on when these plants bloom and what their mature size and cultivation requirements are.

Contracts are often staggered over time, for instance in the case of Stolp’s and Riparia’s conservation project contracts, additional linear feet of hedgerow or riparian buffer plantings have been or will be added over the course of several years.

Both Stolp and Riparia — like most of the landowners involved in NRCS projects — demonstrated an active interest in stewardship before they signed on with the NRCS, which was not a requirement of the NRCS, but is perhaps indicative of more-likely success with the programs.

“While we were taking dedicated conservation actions along Comanche Creek [which borders Riparia Farm] for instance removing invasive hackberry and privet, and replanting native alder, sycamore, Oregon Ash and button willow to improve habitat and diminish erosion, partnering with the NRCS augmented my work.” On a regular basis, NRCS agents come to check on progress, and offer advice and support, “which is helpful,” said Alma. “It keeps us on track and motivated — the NRCS folks are right there to answer questions. This was sometimes a daunting project,” Alma finishes, “the NRCS advice was invaluable.”

Contractees for the hedgerow project are for instance required to remove any existing sod, alfalfa or invasive plants growing in the planting area. They are required to have installed working irrigation and suppress weeds in some fashion around each hedgerow seedling. Hedgerow contractees are required to maintain that weed-free zone and establishment irrigation around and along the hedgerow to the best of their ability during the first two years of the seedlings’ lives, and to replace any plants that die in a timely fashion in that same first few years.

“I learn more as I go,” added Stolp. “Now when I add new hedgerow, I try to follow Mother Nature and place each plant type in groups of more than one. The way quail bush grows taught me that.” Stolp is also considering adding wildlife water troughs formed out of re-purposed old concrete basins in areas of his hedges furthest from natural water sources like the Durham Slough.

Access to clean water is an important aspect to a successful hedgerow (or any wildlife habitat for that matter), and Stolp is working on how to keep the water in these concrete forms refreshed, clean and mosquito-free.

The motivation for each agricultural landowner to create and tend to a hedgerow or other NRCS conservation initiative is doubtless varied — some wanting to entice more pollinators or support wildlife, some wanting to improve natural pest management, some for the sheer love it. For many it comes down to environmental stewardship made easier and more affordable.



A bee nesting box near one of Riparia’s creekside corridor restoration plantings provides nesting spots for native solitary bees.

The concepts and lessons of these larger hedgerow habitats can easily be adapted to smaller scale home gardens — from incorporating more native plants, to planting a mixed-border of them along a property or fence line. Through the likes of garden and nature groups, more and more urban and suburban home gardeners are realizing the importance of even small home gardens as potential sources of food, clean water, shelter and rest stops for birds, pollinating insects and other wildlife.

The long standing National Wildlife Federation's backyard wildlife sanctuary certification program is one such encouraging group, and the Urban Hedgerow movement, which I learned about in the article "A Manifesto for the Urban Hedgerow" by Jason Dewees and Lisa Lee Benjamin in the April 2011 issue of *Pacific Horticulture* is another. Key points made by all of these resources is the importance of providing nectar and larval food, clean water and both living and nesting sites for as much of the year as possible in order to best support a diversity of wildlife.

In terms of seeing the hedgerow movement spread ever more widely across our often intensely agricultural region, Stolp observes: "Many orchardists practice clean cultivation from edge-to-edge of their properties, but there are still many areas that could lend themselves to hedgerow establishment." The benefits he enjoys from his are many. He concludes: "I've had wild turkeys nesting in the hedges. I can't wait till we get a covey of quail — just to enjoy them being there."

Additional Reading & Resources

- USDA-NRCS California: <http://www.ca.nrcs.usda.gov>
- National Wildlife Federation: <http://www.nwf.org/>
- California Native Plant Society: <http://www.cnps.org>
- Xerxes Society: <http://www.xerxes.org/>
- Urban Bee Gardens: <http://nature.berkeley.edu/urbanbeegardens/>
- Hedgerow Farms: <http://www.hedgerowfarms.com/aboutng.html>

About the Author

Jennifer Jewell is a professional garden writer and avid home gardener based in northern California, where she lives and gardens with her husband, two daughters and two dogs. Her writing about gardens and gardeners around the world has been featured in *Edible Shasta-Butte*, *Gardens Illustrated*, *House & Garden*, *Natural Home*, *Old House Journal*, *Colorado Homes & Lifestyles* and *MountainLiving.com*. She is a member of the Garden Writers Association (www.gardenwriters.org).



At Riparia, restoration plantings are tended to very individually while they are still young. Here, Alma bends over a California bay.



Annual and perennial flowers in Stolp's pollinator planting include phacelia, lupine and California poppy.



Stolp smiles from a coffeeberry coming into full bloom in a hedgerow. The coffeeberry blooms are abuzz and aflutter with thousands of active honey bees, bumble bees, hover flies and other pollinators.