Conservation Quarterly

Spring 2007

Volume 11
Issue 1

USDA United States Department of Agriculture

Published by the Yolo County Resource Conservation District

Yolo County Resource Conservation District

Blair Voelz: Combining Crop Diversity with Wildlife Habitat

by Diane Crumley

Blair Voelz, new chairman of the YCRCD board, has been farming in Yolo County for close to 30 years. He first became interested in serving on the RCD board after attending a Farm Conservation Planning workshop in 2004, which ultimately resulted in the installation of a number of beneficial practices on his newly planted Antelope Hill Vineyard, with the assistance of EQIP funding, and a great three -way partnership between grower, NRCS and the RCD.

The 110 acre vineyard site in the Dunnigan foothills northwest of Woodland is adjacent to the steep, deeply cut banks of Bird Creek. Blair installed a mix of grasses over the entire vineyard floor, with field borders using various clovers. The field borders double as vineyard roads, minimizing bare ground and enhancing water infiltration. Blair has planted large areas for wildlife habitat with native grasses, trees and shrubs adjacent to the vineyard and bordering Bird Creek, which prevent further erosion along the creek banks. A hedgerow of native plants was also planted along another edge of the vineyard that leads to a new pond, which serves as a back-up reservoir for irrigation, as well as a resource for wildlife.

Blair Voelz

Blair's primary farming operation is in the lowlands near the Colusa County line where he grows seed crops (watermelon, cucumber, squash, carrots, parsley, onions and habanero) and several varieties of rice. This land was first farmed by his wife's father, grandfather and great grandfather; Blair's son, Eli, has recently joined him in the continuation of the family operation. On the day I visited, they had recently harvested watermelon for seed, after which they tilled once more to remove most of the vine material, some weeds and then plant wheat. This low-till approach leaves foraging habitat for Swainson's hawks that feed on field mice hiding within the field stubble.

For Blair, the benefits of low-till include the reduction in labor and fuel costs, improved air quality, and reduced greenhouse gas emissions. When Blair traveled to Argentina in 2004, one of the first things he noticed was how clean the air was. Close to 50% of Argentina's cropland is in no-till, compared to about 20% in the U.S. and only 2% in California.

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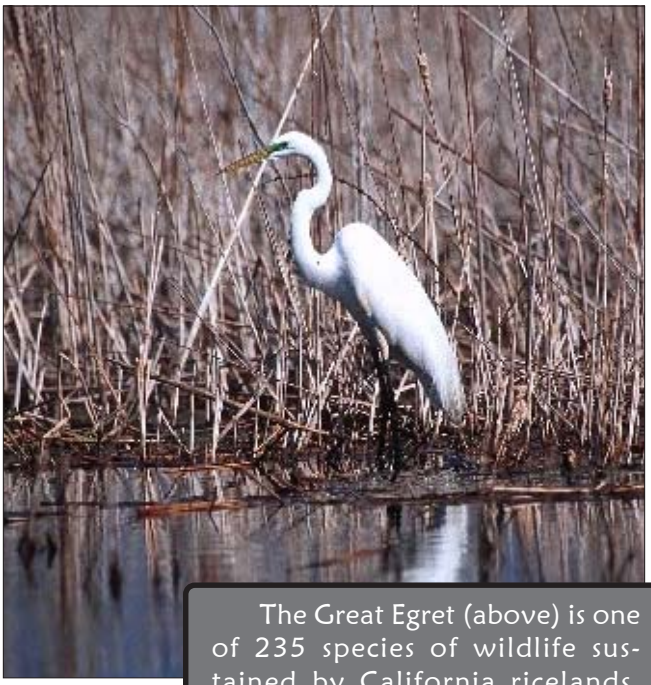
On his rice ground, Blair has had success with aerial seeding of bell beans as cover crops, which he says have produced a more friable soil and an improved rice stand, with a 5% to 10% increase in yield. Blair has seen two-foot bell bean growth on the rice ground, resulting in an additional 20 to 30 lbs. of nitrogen per acre. The costs of this practice include the extra labor necessary to incorporate the crop residue, and the difficulty in realizing long-term benefits of this management technique from short-term land leases.

A tour through Blair's 200 acres of rice cropland is a bird-watchers dream. Driving along the fields, Great Blue Herons and Great Egrets flush from the rice stands, and fly slowly ahead about every 100 feet. His rice fields border a canal to the east that runs south all the way to the Cache Creek Settling Basin. Several other rice growers adjacent to the canal provide habitat and form an important corridor for wildlife, particularly birds. Although rice requires a significant amount of water, it also functions as a natural filter to improve water quality, additionally providing prime seasonal habitat for waterfowl, shorebirds, wading birds and raptors. The technique of post-harvest flooding and cage-rolling rice straw creates valuable seasonal wetlands for the migrating birds along the Pacific Flyway, and creates a condition that promotes the quick decomposition of the straw and stubble. Blair's rice farmland is particularly rich habitat because of an additional 40 acres that is an alkali flat that he has taken out of production to let "go native" with volunteer willow, tule, sedges, rushes and native grasses, and provide habitat for resident deer, coyote, game birds, reptiles, and beneficial insects. Rice farmers in the past had been given a negative reputation due to the old practice of straw-burning, but currently, by practicing post-harvest field flooding, they are creating much-needed wetlands and contributing to sustainable, wildlife-friendly production.

When asked for his "take-home lesson", Blair smiled and said "diversity" and the willingness to continue learning. Blair is obviously well-suited to this challenge and a look around his fields shows he's succeeding in balancing the tough economics of farming while simultaneously improving conditions for wildlife.



Courtesy photo, NRCS.

The Great Egret (above) is one of 235 species of wildlife sustained by California ricelands. Sacramento Valley is designated as a Habitat of International Significance for shorebirds, which include some of the 25 bird species of "special status" that currently utilize wetlands produced by rice farmers.

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Caltrans Native Tree Planting Project Successfully Completes a Challenging Year

Over the past 18 months since beginning installation for the Caltrans Native Tree Planting Project, Yolo County RCD Revegetation Specialist, Sean Kenady has faced record-breaking rainfall in December of 2005, a scorching heat wave in July of 2006, and record-shattering cold and drought in January 2007. This Caltrans - funded project involves the planting of trees, shrubs and bunchgrasses, native to California's Central Valley, to landscape selected highway interchanges between Davis and West Sacramento. Plant species include Interior Live Oak, Valley Oak, Red and Black Willows, Cottonwoods, Western Redbud, Black Walnut, Coyote Brush and Deergrass. The project plans specify that all plantings occur in linear rows, with mulch for weed control laid among the trees and Deergrass.

Despite the challenging weather conditions, project staff Sean Kenady and John Reynolds planted over 1,100 trees and shrubs, and over 850 plugs of bunchgrass during the first phase of the project from October 2005 – November 2006. First-year survival averaged 88% for trees and 93% for Deergrass. The leading cause for mortality was rodent damage, most likely California Ground Squirrel or a vole species, chewing on plantings just below the soil surface. Trees six feet tall and ¾" in diameter have been completely severed. After replacing the rodent-damaged plants, metal screens extending 6 inches below ground, and several inches above ground were installed around the replacements. Sean will monitor how successful the screens are in reducing rodent damage throughout the spring.

During the first year, Deergrass grew most rapidly, now about 3 feet tall and 4 feet wide at most sites, and is currently the most prominent component of the plantings. The fast-growing Black Walnut and Cottonwoods are now over 6 ft. in height and self-supporting, and the slower growing Oaks, Willows, and Redbud are also doing well, yet still require some staking for support. Over the long-term, these species will provide an attractive, yet hardy highway landscape that is much more likely to survive drought, fire, periodic flooding and insect damage when compared to the typically planted ornamental species. Sean and John will continue to maintain these plantings throughout the Plant Establishment Phase, from June 2006 – June 2009.

Deergrass and newly-planted native trees along I-80, east of the Yolo Bypass. Photo by Sean Kenady.

Vegetation Management Equipment for Rent or Hire

Want to plant or maintain a roadside or plot of native grass but lack the equipment? The YCRCD can assist you with specialized equipment for native planting and maintenance, including a harrow, seeder, and mower—all pullable by ATV.

Contact Sheila Pratt at 530/662-2037, ext. 117 for more information on specifications and rates for rental or hire.

RICE ROLLER for rent
$3.00/acre - available immediately
Call Yolo RCD at 662-2037, ext. 117

RCD Expands Control Efforts for Non-Native Plant Invasions

A wide-ranging issue

Invasive, non-native vegetation often has an initial competitive advantage, because it has escaped the environment of its natural predators. These "invaders" can displace native plants and wildlife habitat, crowd out crops and rangeland forage, increase the risks of wildfire by generating higher fuel loads, clog creeks and increase flood danger, and can consume enormous quantities of water that is then lost for use by wildlife, agriculture and drinking water users. Each year, Southern California loses over 68 billion gallons of water as a result of the invasive Tamarisk populations along the Colorado River. Nationally, invasive weeds on farmland and pastures cost an estimated $33 billion per year. (California Invasive Plant Council, www.cal-ipc.org). At the larger, global ecosystem level, highly regarded Harvard University ecologist E.O. Wilson states that invasive species are among the greatest threats to global biodiversity, second only to habitat loss.

Local control issues

In 2006, the RCD's *Capay Valley Riparian Vegetation Management Program* completed its first year treating and controlling Tamarisk (*Tamarix parviflora*) and Giant reed (*Arundo donax*) on 130 acres along Cache Creek in the northern portion of Capay Valley. This project is funded by the Wildlife Conservation Board, and it is anticipated that a total of 760 acres will be treated, and 150 acres of riparian habitat restored, over the course of the multi-year program. Although local weed management efforts have often focused on the control of Tamarisk and Arundo, there is another wildland weed "invader" entering the picture along the Cache Creek corridor in Lake and Yolo Counties, known as Ravenna grass (*Saccharum ravennae*).

Ravenna grass. Photo by Craig Thomsen.

A new invader

Ravenna grass is an escaped ornamental grass that continues to be widely promoted by the plant nursery industry, due to its hardiness and impressive size, with flowering stalks reaching 12 feet in height. Individual plants can produce thousands of seeds that are dispersed by wind and water, contributing to its capacity for invasion along both riparian and upland sites. The original source of Ravenna grass along Cache Creek is thought to be in the remote upper watershed of Lake County, although the precise location has yet to be formally identified. According to Gregg Mangan, Cache Creek Natural Area manager for the Bureau of Land Management, he first recalls seeing it in the early 1990s while conducting field surveys along the north fork of Cache Creek.

Other observations include abundant stands along the lower Cache Creek after the intense flooding of 1995, as reported by the late Jan Lowrey, life-long resident of Rumsey and former director of the Cache Creek Conservancy. John Watson, vegetation manager for the conservancy, has spotted it a mile west of I-5, near Woodland, and suspects that its reach may extend into the Cache Creek Settling Basin, which is then just a short distance to the Sacramento River.

For now, it appears that Ravenna grass still has a limited distribution within the state, with the only other reports of its occurrence in Imperial Valley, where it is found in marshes and ditches. However, it also has an invasive history in Utah and Arizona, where the Grand Canyon National Park Service has removed more than 25,000 plants. Based on these observations, it clearly has the potential to move well beyond Cache Creek, invading other California watersheds. While no formal research has been conducted yet on the effects of Ravenna grass on the Cache Creek ecosystem, field observations indicate these enormous plants are already having a significant impact on the creek's native habitats. A cooperative regional effort including federal, state, and county-level agencies, as well as concerned landowners, is needed to address local Ravenna grass infestations before it expands any further throughout the watershed.

Last fall, the Yolo County RCD, in cooperation with Yolo County Parks and private landowners, Joe Muller and Sons Farms, included Ravenna grass control with the on-going Tamarisk and Arundo removal in the lower Cache Creek watershed. Future efforts will also need to target the primary source of this infestation, along the remote reaches of the upper watershed, in order to assure effective containment. With continued funding and increased awareness about the consequences of this weed invasion, it is hoped that the biodiversity in the Cache Creek region will improve as a result of these collaborative efforts.

Water Quality Projects

Yolo, Solano and Dixon RCDs Partner to Improve Ag Water Quality

YCRCD is working in partnership with the Solano and Dixon RCDs, and the Yolo County Farm Bureau Education Corporation to provide technical support and funding for the installation of on-farm water quality/ soil conservation best management practices (BMPs), including sediment traps, filter strips, cover crops and vegetated drainage ditches.

This winter season, Program Manager, Clara Mamone has been busy performing field assessments to investigate the feasibility of installing these BMPs under a variety of conditions. Examples include sites for potential sediment traps and grassed waterways for 105 acres of tomatoes and 80 acres of alfalfa; a cover crop for a vineyard; a filter strip to reduce sediment movement from a 50 acre cattle pasture; and a hedgerow and field pond for a 13 acre orchard.

Recent plantings and installations include a perennial native grass cover crop for a vineyard, a legume mix winter cover crop for a 25 acre horticultural field, and an annual cover crop for 13 acres of sunflower, to name a few. In total this season, 115 acres have received installation of BMPs and an additional 335 acres were assessed for eligibility.

In order to measure the effectiveness of these practices in improving runoff water quality, water samples taken at the inlet and outlet of each BMP site will be taken following the first storm or irrigation event to compare 'treatment' with 'no-treatment'. These services are free to farmers who are members of Irrigated Lands Coalition Groups. Closely examining how various practices impact water runoff is one way the RCD can provide farmers with tools to respond to the growing regulatory pressures to improve water quality.

For more information, please contact Andrea Mummert, Solano RCD at (707) 678-1655 ext. 101 or Mark Lane, Yolo County RCD at (530) 662-2037 ext. 120. This project is supported by a grant from the State Water Resources Control Board.

Water sampling in control ditch without vegetation.

Vegetated Drainage Ditches Installed to Test Effectiveness in Improving Irrigation Runoff Water Quality

YCRCD is in its third year of collaborating with scientists from the USDA Ag Research Service, USEPA, UC Davis, Clemson University and environmental consultants on an ambitious project designed to field test the ability of vegetated ditches to improve water quality.

In Phase I of this project, researchers took detailed measures of pesticide concentrations in water, sediment, and plants over a multi-day field test using three ditch types. In-depth analysis and modeling followed and informed the next phase of the project, where YCRCD vegetated several ditches adjoining local tomato and alfalfa fields. YCRCD Senior Program Manager Jeanette Wrysinski has led the effort this winter in the planting of 18,000 plugs of Creeping wildrye and Slender sedge in these new field-test sites.

With some luck and good weather, these plugs should be mature enough for field tests to commence this summer. Sampling will occur during the first irrigation following a pesticide application, per landowner site. The objective for this stage of the project is to validate the effectiveness of the "optimal" ditch size and shape determined from the Phase I modeling results.

This is currently the most in-depth and large-scale study of its kind in California, and all of the project staff and scientists are excited by the potential to provide local farmers with a cost-effective means to reduce concentrations of dissolved chemicals from runoff water. Our preliminary results from the Phase I field trials show that the length of vegetated ditch required to reduce pesticide concentration by half is 22 meters, compared to 347 meters in a similarly shaped ditch without vegetation. This is greater than a 90% improvement in distance efficiency with the addition of vegetation, which can additionally trap sediments and take up excess nutrients. We look forward to the summer field season for this exciting project.

This project is funded by the Proposition 13 funds from the State Water Resources Control Board.

News & Announcements

Riparian Weed Control and Restoration Workshop Scheduled for April 18th

The Yolo County RCD and the Cache Creek Conservancy are sponsoring a free workshop on revegetation techniques for habitat restoration and management using native plant species. The workshop will be held at the Cache Creek Nature Preserve, 34199 County Road 20, 5 miles west of Woodland, from 9am – noon, Wednesday, April 18, 2007. Three hours of Department of Pesticide Regulation continuing education credit have been approved.

Willow Slough riparian enhancement project site three years after installation by the Audubon Landowner Stewardship Program, NRCS, and SLEWS kids.

Topics and speakers include: Enhancing Bio-control on Farms: Bats, Barn Owls and Beneficial Insects, by Rachel Long, UCCE; Tamarisk Leaf Beetle: A New Bio-agent to Control Tamarisk, by Dr. Ray Carruthers, USDA-ARS; Riparian Restoration on Non-Riparian Soils: Using Amendments, by Dr. Steve Young, UCD; Irrigating Native Plants, by Miles DaPrato, Audubon CA; Restoring the Understory: Native Grasses, Sedges and Rushes, by Dr. John Anderson, Hedgerow Farms; Restoring the Overstory: Native Trees and Shrubs, by Dr. Jeff Hart, Hart Restoration.

Attendees are asked to pre-register by April 13th. For further information please contact Tanya Meyer, Yolo County RCD at (530) 662-2037 ext. 114, meyer@yolorcd.org

This workshop is funded by grants from the Wildlife Conservation Board, the State of California, and the CALFED Bay-Delta Program.

Tom Muller Honored for Over 20 Years of Service

This year's RCD Annual Dinner, held March 14th, had several highlights: we formally recognized outgoing-Board Chairman Tom Muller for his leadership on the RCD board over the past two decades; recognized Duane Chamberlain as Cooperator of the Year; and heard from UC Davis Professor Jeff Mount regarding alternative futures for the Sacramento/San Joaquin Rivers Delta.

This year's event, held in the Zamora Town Hall, opened with a tasting of local wines from Rominger West and Berryessa Gap wineries, and lively music provided by the Putah Creek Muckrakers. A silent auction of items donated by local farmers and businesses, raised scholarship funds for two local high school students to attend the California Range and Natural Resources Camp in Half Moon Bay in June.

Over 115 guests heard brief presentations from federal and local partners about Tom's role as a conservation leader for local agriculture. These included recognition from Duane Chamberlain, Yolo County Supervisor, Ed Burton, State Conservationist, NRCS; and Elly Fairclough, Field Representative for U.S. Congressman, Mike Thompson.

Duane Chamberlain was honored as the 2007 RCD Cooperator of the Year for his participation and support for numerous RCD demonstration projects on his farm and fields over the past decade. Mr. Chamberlain has hosted numerous hedgerow, water quality and streambank habitat improvement projects. This award is given annually to a local individual whose efforts on his/her land have contributed significantly to the RCD's mission of preserving and enhancing Yolo County's agricultural and natural resources.

Dr. Jeffrey Mount is part of a multi-disciplinary team that recently released an exhaustively-researched study regarding the future of the Delta relative to its function as a conduit for fresh water, a haven for wildlife, and a hub of agricultural productivity and urban growth. Dr. Mount discussed the urgent need for change in land and water management in the Sacramento-San Joaquin Delta in the face of the increasing risks of levee failure and ecosystem decline, and outlined the range of solutions and their relative merits for improving Delta management.

Tom Muller.

News & Announcements

Cache Creek Discovery Day to Celebrate Watershed Stewardship on May 19th

As part of California's official Watershed Awareness Month, the Cache Creek Watershed Forum will host a one-day outdoor learning event, *Cache Creek Discovery Day*, on May 19th, at Cowboy Camp on Highway 16, in Colusa County.

The free event is geared toward all ages, and provides special emphasis for youth outdoor-learning in a broad range of issues relevant to the watershed. Guided hikes along the new High Bridge Trail, wildlife viewing, Native American basketry demonstrations, and displays highlighting stream biology, local geology, birds, wildlife tracks and signs, native plants, habitat restoration, and goats (on-site) conducting natural vegetation management are among the activities available for all who come.

The event will run from 9am to 3pm, and demonstrations and activities led by area experts will run each half- hour, with a noon lunch hour picnic accompanied by live music. There is a BBQ lunch available ($7.50) for those without picnic supplies. The location is at the new BLM 'Cowboy Camp' equestrian trail head on Highway 16, just one mile south of Highway 20 in Colusa County.

This event is made possible in part by a grant from the Rumsey Community Fund and the following organizational partners: US Bureau of Land Management; Yolo, East Lake and West Lake, and Colusa RCDs; Counties of Lake and Yolo; Cache Creek Conservancy; Lake Co. Sierra Club and Audubon; UC McLaughlin Mine Reserve; and other local organizations. For more information please call us.

Cache Creek. Photo by Craig Thomsen.

New CALFED Ecosystem Restoration Grant for Working Lands in Yolo and Solano Counties

In November 2005, YCRCD and partner organizations collaborated on a successful proposal to CALFED's Ecosystem Restoration Program to expand and refine programs already on the ground in Yolo and Solano Counties to lower barriers that keep farmers from implementing conservation friendly practices on their lands and develop a model for other regions facing the same challenges in the process.

Work will begin on the $2,063,637 Yolo-Solano Conservation Partnership for Habitat on Working Lands project in late 2007 that will:

- Provide barrier reduction programs for farmers, including landowner assurances, permit streamlining and conservation fund leveraging;
- Install multiple farm ponds, 1.5 miles of riparian enhancement and 2 miles of canal bank vegetation and demonstrate new information regarding their benefits for native aquatic and terrestrial species;
- Develop a social and economic analysis of farm "ecosystem services";
- Create a project model extendable to other regions; and
- Share and exchange information about the project's goals and progress with public workshops, presentations, youth education and small publications.

The grant will support the work of a broad partnership, including Yolo County Resource Conservation District, Audubon Landowner Stewardship Program; Solano Resource Conservation District; Peter Moyle, Professor of fisheries at UC Davis; Yolo County Flood Control and Water Conservation District; Glen Wylie, USGS wildlife biologist; the Center for Land Based Learning; Defenders of Wildlife and the Solano Land Trust.

For more information about the Yolo-Solano Conservation Partnership for Habitat on Working Lands project, contact Paul Robins at Yolo RCD, 530 662-2037 x 116.

Yolo County RCD Publications

The Yolo County RCD offers various resource materials for sale. To place an order, send your request to Yolo County RCD - Orders, 221 W. Court Street, Suite 1, Woodland, CA 95695; call 530.662.2037, ext. 117; or send an e-mail to pratt@yolorcd.org.

Please add tax and shipping and handling costs to publication prices below:

Know Your Natives; A Pictorial Guide to California Native Grasses (includes supplement) $30

Know Your Natives - supplement ONLY $15

Bring Farm Edges Back to Life! $15

California Native Grass (poster) $17

Monitoring on Your Farm $15

Working Habitat for Working Farms (video) $10

Yolo County Soil Survey (CD-ROM) $13.92

Capay Valley Conservation & Restoration Manual $15
(free to Capay Valley residents)

Shipping & handling:

(no charge if item is purchased on site)
1 item: $6.00
2-5 items: $9.00
6-10 items: $12.00
11-30 items: $16.00
Poster: $7.50

Please add 7.25% sales tax to prices

Find project progress reports, events, links, and updated conservation articles on the RCD website at www.yolorcd.org

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