



# RESEARCH • IPM NEWSLETTER

## *Partners for Fish and Wildlife Program*

BY BRIAN WIEBLER  
U.S. Fish and Wildlife Service

Since 1990, the Partners for Fish and Wildlife Program in California has been working with landowners to voluntarily restore and enhance fish and wildlife habitats on private lands. The program provides financial and technical assistance to conservation minded farmers, ranchers, and other landowners throughout the state to benefit fish and wildlife on their land. Habitat restoration and conservation are essential to preserving California's fish and wildlife resources. It is expected that California will experience the greatest population growth of any state over the next 50 years. Competition for water will put tremendous pressure on wetland, riparian (lands adjacent to waterways), and instream habitats. Increasing land values and the high cost of water will be incentives for agricultural producers and other rural landowners to sell their land for development. This will result in significant losses in the amount and quality of habitats for fish and wildlife. Invasions of exotic plants and animals will reduce the diversity of habitats causing native species to be less competitive. This will lead to increased threatened and endangered species listings and fewer opportunities to recover already listed species. With more than two-thirds of California's land in private ownership, the future of the state's wildlife habitat is dependent on the conservation practices of the private landowner. We believe it is imperative that wildlife professionals and agricultural producers work together, in a voluntary and cooperative manner, to identify and carry out projects that benefit wildlife and the health of agricultural landscapes.

The Partners for Fish and Wildlife Program is the U.S. Fish and Wildlife Service's habitat restoration cost-sharing program for private landowners.

The program was established in 1990 in California to offer technical and financial assistance to private landowners who wish to restore wetlands, riparian areas, native uplands and other fish and wildlife habitats on their land. The Program emphasizes the restoration of historic ecological communities for the benefit of native fish and wildlife in conjunction with the desires of private

landowners. These restored habitats provide important food, cover, and water for federal trust species, which includes migratory birds (e.g. waterfowl, shorebirds and wading birds, neotropical migratory songbirds), anadromous fish (salmon and steelhead), and threatened and endangered species. Projects that receive the highest priority for funding are those that provide direct benefits to federal trust species and/or are located near a National Wildlife Refuge.

While the Program funds a wide variety of projects, most of them can be categorized by the type of habitat being restored or enhanced. Currently the majority of our projects involve wetlands, riparian areas, native uplands, or a combination of these habitats. Restoration of wetlands is a very effective way of helping fish and wildlife species in California.

Wetlands provide an important habitat for migratory waterfowl, shorebirds, songbirds, and threatened and endangered species. Wetland restoration involves the use of earth-moving equipment to restore historic topography that has been leveled for agriculture. To mimic historic water flows, water control and delivery structures are placed around the restored wetland. Wetland vegetation is often planted to produce immediate wildlife benefits.

Most migratory songbirds use riparian areas to meet some or all of their habitat needs. Some species including the yellow warbler and willow flycatcher are completely dependent on riparian habitats. Riparian areas also support many other common and declining species of mammals, amphibians, reptiles, and insects. Populations of many species of songbirds are in decline in the west. Partners for Fish and Wildlife is working with ranchers and others to exclude livestock from creeks, replant native riparian trees, shrubs, and other plants, and to restore and stabilize eroding channels and streambanks.

The value of native uplands (lands supporting primarily native grasses and forbs) as habitat for wildlife is receiving increased attention. Native grasslands and other uplands



provide an important habitat for songbirds, foraging raptors, nesting waterfowl, endangered mammals such as the giant kangaroo rat and San Joaquin kit fox, a variety of reptiles, and more. Each year there is more and more interest from landowners to restore native uplands, and we expect an increasing percentage of Partners projects to concentrate on uplands in years to come. If you are interested in the Partners for Fish and Wildlife Program, give us a call at (916) 414-6446 and we can discuss potential projects. Landowners contact us

for a variety of reasons including; to restore habitat on areas that have been difficult to farm because of flooding or soil type, to plant trees to help reduce wind erosion, to stabilize an eroding stream, to increase hunting and fish opportunities, and most often to see more of the wildlife species they saw as a child. Remember, with more than two-thirds of California's land in private ownership, the future of the state's wildlife habitat is dependent on the conservation practices of the private landowner.

## GROWER PROFILE: *Bill Stokes*

**BY LISA MAY** - Bill Stokes was born in Lodi and raised in Thornton, where his grandfather owned a bar and hotel that, unfortunately, burned to the ground in the mid 1970's. Bill's first farming experience was with alfalfa hay. He began farming winegrapes with his younger brother Mike, when they took over the farming of a Zinfandel vineyard originally planted in the 1950's by their grandfather. Although his father, Tom, owned cattle and sheep, in the 1970's he decided to grow winegrapes. This likely contributed to Bill's own diversity as a farmer and, although his focus is primarily in viticulture, Bill and Mike have planted alfalfa and some grain crops, including wheat. They maintain some vineyards in Lodi, but most of their vineyards are in Walnut Grove. Bill attended Delta College and studied Fruit Science. He and his wife, Lisa, met in high school and married in 1983. Their first child, Danielle, was born in 1985 and was followed by Jaclyn, who is now eleven years old.

Bill currently has 150 acres of Merlot and Zinfandel in our BIFS program and some of the sustainable agriculture practices he is using are growing cover crops, regular pest monitoring, using economic thresholds in pest management decision making, and using pest models. As part of his sustainable system of farming practices, Bill relies a great deal on his *Adcon telemetry station* that he set up in his vineyards to

minimize pesticide and fungicide use. Bill says, "Efficiency is important, you need to be efficient with timing of applications when following the pest models." They currently have 3 stations that constantly monitor high and low temperatures, precipitation, leaf wetness, wind speed and direction, solar radiation, soil temperature, and barometric pressure. Adcon systems can also be used to predict general frost events. Bill's system, which he has had for five years, is also linked to many cooperating weather stations throughout the district. He has improved irrigation efficiency by measuring moisture in the soil and using the C-probes connected to the Adcon System that measure soil moisture. Information is relayed from the field to a base station every 15 minutes and it can be accessed on command. Bill feels the system gives him a precise method for use in irrigation scheduling. C-Probes add a valuable tool to a network of stations that gathers site-specific climate data for programs ranging from frost protection to insect and disease modeling. "They can cut costs and improve quality at the same time."

Bill and Mike have a new wine label called Benson Ferry. The name can be traced to early settlers of Thornton from the 1800's. Their first vintage was in 2000, which consisted of 3,000 cases and the 2001 vintage has increased to 5,000 cases. The wine was made from Syrah, Chardonnay, and old vine



**YEARS IN THE WINEGRAPE INDUSTRY: 20**

**ACRES IN THE DISTRICT:**  
4,000 including row crops

**VARIETIES GROWN:**  
Chardonnay, Syrah, Zinfandel, Carignan,  
Cabernet, Pinot Noir, Pinot Grigio, Merlot

Zinfandel and is distributed by local retailers, some in the Sacramento area, New York, Pennsylvania, and New Jersey.

Bill has been active in the wine community throughout the district and the state. He is currently President of Lodi District Grape Growers Association, Chairman of Woodbridge Irrigation District, and on the American Vineyard Foundation Technical Advisory Committee.

"If the growers in the Lodi District can do in the next decade what we have done in the last decade we will continue to have a wonderful district. We need to maintain its development, but it is endless what we can do. We need to all equally promote our product both on the vine and in the bottle, and not let the rough times stop us. We have a lot of work to do in the next ten years. All wines are good, with some better than others, but we all need to promote all wines because it's helping our district. We need to all work together and we cannot bash each other." Well said, Bill.

*“ We need to all equally promote our product both on the vine and in the bottle...we have a lot of work to do in the next ten years. ”*

# IN THE VINEYARD

BY PAUL S. VERDEGAAL

U.C. Viticulture Farm Advisor

After a mild winter the still new season has started out relatively cool and dry. The in-season rain pattern this year is similar to 1997, which had a somewhat “dry” spring. However, that came with an above average winter rainfall, where this year we are slightly behind normal. The accumulated degree days for this April are less than normal, while in 1997 they were well above normal. As important as deficit irrigation is for quality during the current weak market, be careful not to overdo the vine stress this year on young vines, own rooted vines with nematodes, poor soils or on certain varieties such as Chardonnay and Merlot. Crop levels seem to be shaping up to be slightly below normal to about average across varieties and vineyard sites. Of course there are always exceptions, especially new vines now reaching maturity, but the per acre yields appear relatively normal at this point. One curious phenomenon seen across the district this year is the especially “fuzzy” vines, from the prolific shoot push on just about every bud. Possibly the combination of the very mild winter, the generally cool weather after budbreak and a couple of very warm spells may have contributed to a strong shoot push. Each grape bud is comprised of a main shoot and two secondary shoots, all of which, appear to have a tendency to grow this year. A related occurrence seems to be many small and “weak” shoots breaking off recently. Many of these are secondary shoots, which normally tend to be a little weaker in vigor and attachment than the primary shoots, but also the severe wind this year seemed to coincide with a later budbreak. With the primary shoot not being out as far and the proliferation of secondary shoots, many shoots may have suffered just enough damage to hang on. As these shoots increased in weight or experienced more wind they finally showed up recently by just withering or falling off “for no reason at all.” Mother Nature may be trying to help reduce

thinning costs this year, but many wineries are still requiring a little more. It has taken many years of hard work to gain the long overdue recognition for quality fruit and distinctive wines from the Lodi district. It wouldn't take much negative word to lose those well-deserved gains, almost overnight.

Although I see less tendency of early irrigation and high nitrogen applications, there have been “kicker canes” making a return to local vineyards. These may make up for lower prices but can counter many quality aspects. As big as the statewide production may be this year, quality from the area will help move local grapes and possibly help shorten the down cycle.

As difficult as the lower grape prices are, there is still the opportunity to interest more consumers in high quality wines from the area. That's the upside, the downside is production costs continue to rise and there appears to be no relief to regulations and taxes in the near future. The true test in marketability is in better wines. There is no one way to grow quality grapes, but consider the following:

- 1) Avoid excessive or “might-as-well” irrigations prior to bloom, but watch out for early hot spells. In most vineyards there is little to no irrigation needed before bloom (mid May). Many arguments could be made about specific deficit levels and timing, but research and local experience indicates significant differences in wines from vines irrigated at less than full water demand. Irrigation management will be even more important in the future.
- 2) Bloom time is traditionally and generally a good time to assess vine nutrition, especially with the reliance on drip systems. Grape growers are fortunate compared to growers in other crops, as vines don't seem to need as much as most other commodities. From budbreak until bloom time shoots are relying almost entirely on stored reserves for nutrients, other than sugars



produced from photosynthesis. Some varieties (Symphony) and some programs (white Zinfandel) may require slightly higher application rates. Potassium and zinc deficiencies (boron in more recent years) have been a problem, but too much nitrogen has been more of a problem. A nitrogen program of 20 to 30 pounds actual nitrogen (N) per acre will maintain most high producing vineyards on a long-term basis. In most other situations, you may find 5 to 15 pounds of actual N per acre is enough depending on rootstock, site and well water nitrogen levels. It's possible to save some money and put it towards other nutrients, such as potassium (K) or to vineyard operations. Nitrogen is a very elusive thing to measure compared to other nutrients, but run a petiole analysis (leaf blades are no better and usually worse). Then talk it over with your PCA.

- 3) Crop load and canopy management are difficult subjects to discuss in a down market, but may be required to meet the winery demands for higher quality in the current competitive environment. Some newer vineyard-trellis system designs may allow higher yields at 8 to 9 tons per acre (TPA). For vineyard designated wines 3 to 6 TPA may be the limit. These are not hard and fast rules and there are many interactions with soil, rootstock and trellis system. High yields can counter lower prices, but can be self-defeating. The market may be soft, but the district's quality and value are more evident than ever. Good luck in 2002.

## Leafhopper and Mite Counts from around the District Posted on LWWC Website

Over sixty vineyards around the district are monitored on a weekly basis for pests as a part of LWWC's BIFS (Biologically Integrated Farming Systems) program. Each Monday leafhopper and mite counts from



16 of these vineyards observed the previous week will be posted on the Commission's website accompanied by a map to show you where these vineyards

are located and a brief description of each vineyard. Go to [www.lodiwine.com](http://www.lodiwine.com) and look under Grower News. If you have any questions regarding this information call Cliff or Lisa at the Commission office: 367-4727.

## LWWC Demonstration Vineyard is Established!

Thanks to the great coordination efforts of Lisa May and the donations of time and materials by many people LWWC's demonstration vineyard was recently planted. The vineyard is located on the southwest corner of LWWC's site next to the city park. The land was prepared



by staff from Wine & Roses; stakes and end posts were donated and installed by Mel Roush and Valley Vineyard & Orchard Supply; the irrigation system was designed, donated and installed by Quantum Irrigation under the supervision of Russell Machado; the vines were donated by Duarte Nursery under the supervision of Markus Bokisch; and the planting was done by Sunrise Rotary and other Lodi residents under the supervision of Lisa May. Walkways and signage will be added soon. A special thanks to everyone involved. Come visit the vineyard!

RETURN SERVICE REQUESTED

2545 W. TURNER RD.  
LODI, CA 95242

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