

The Yolo Bypass Wildlife Area: History, Management and Significance for Birds

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The 16,771-acre Yolo Bypass Wildlife Area, located between Davis and Sacramento in the Central Valley of California, is an incredible resource for the Sacramento Region. It accommodates farmers, birders, duck hunters, school children, and other recreational uses, but it wasn't always so; in fact, the Wildlife Area was established less than 20 years ago.

This paper presents a history of the Yolo Bypass and describes the establishment and current management of the Yolo Bypass Wildlife Area with a focus on its importance to birds.

HISTORY OF THE YOLO BYPASS

The Yolo Bypass Wildlife Area sits in the Yolo Basin, one of five natural basins located along the Sacramento River. These basins, Butte, Sutter, American (Natomas), Colusa and Yolo, held floodwaters from the river in the days before levees were built, and with high water events, the basins often remained flooded for months at a time.

The almost-80,000-acre Yolo Basin provided seasonal marshy habitat for tule elk (*Cervus canadensis nonnodes*), many species of fish, and thousands of birds including large numbers of waterfowl. Native Americans lived in this area for thousands of years, taking full advantage of its abundant resources.

In the early 19th century millions of waterfowl migrated south along the Pacific Flyway to winter in the Central Valley, including the extensive tule marsh in the Yolo Basin, but all that began to change by the middle of the century. Reclamation for agriculture, concerns about flooding, exacerbated by hydraulic mining debris from the Sierra, as well as market hunting all contributed to the demise of the great flocks of wintering birds.

The era of market hunting peaked in the late 1800s (Hickman and Morrill 2015). Encouraged by the wheat farmers, who had prospered from earlier reclamation efforts, hunters shot waterfowl, considered agricultural pests, by the thousands and sold them in the larger cities. It wasn't until the turn of the century that the state hired game wardens and set bag limits and seasons on hunting to control the steep decline in birds. In addition, federal legislation like the Migratory Bird Treaty with Canada and Mexico in 1918 gave greater protection to all migratory species.

In 1911 the state passed the Flood Control Act, and construction of the Yolo Bypass began. In 1917, the Sacramento Flood Control Project, a federal flood control act was also passed. Philip Garone commented in *The Fall and Rise of the Wetlands of California's Great Central Valley* (2010, p. 93), "While offering flood protection for the Sacramento Valley, the combination of the new state and federal flood control acts also guaranteed the destruction of the valley's vast tule basins, the ancestral winter home for millions of migratory waterfowl." Of the five natural basins, the Butte Basin was the only one that didn't ultimately have levees, and to this day it supports the largest concentration of wintering waterfowl along the entire Pacific Flyway.

In *The Game Birds of California*, Grinnell et al. (1918) acknowledged that reclamation had a profound effect on the decline of waterfowl and game, but their greatest condemnation was for the market hunters, who made a resurgence during the Great Depression that lasted until the 1950s, when state and federal agencies finally were able to shut it down for good (Hickman and Morrill 2015).

The rise of duck clubs and wildlife refuges in the first half of the 20th century gave some protection to waterfowl. The early refuges were established primarily to lure birds away from the rice crops that had become big business starting around 1912, as well as to provide them with good wintering habitat. In the 1930s, Ducks Unlimited was formed in the U.S. to provide funds to Canada for waterfowl habitat protection in their breeding grounds. In 1931, Gray Lodge became the first state refuge in the Sacramento Valley and for 20 years was strictly a sanctuary for waterfowl.

The Central Valley Project was authorized by President Franklin Roosevelt in 1935. As a federal reclamation project, dams and canals were built to move water throughout the Central Valley. The vast wetlands, and thus the wintering waterfowl habitat and populations, were further reduced by the altered hydrology and increased acreage under cultivation.

The flooding patterns of the Yolo Basin were altered significantly by the construction of dams and reservoirs for the Central Valley Project. By the mid-20th century the basin became the most important flood control feature of the Yolo Bypass, a 59,000-acre floodplain, some 40 miles long, which allows the floodwaters of the Sacramento River to bypass the city of Sacramento.

The Yolo Bypass, which extends south from the Fremont Weir, floods on average once every three years and can move five times the amount of water that the river can—500,000 acre feet per second versus 100,000 in the river. The bulk of the floodwater comes from the Sacramento River over the Fremont Weir above Woodland, but depending on the conditions, there can be significant amounts of water from Cache Creek, Willow Slough, and Putah Creek on the west side and from the Sacramento Weir on the east.

QUIET YEARS IN THE BYPASS

The Wildlife Conservation Board was established in 1947, which provided a funding mechanism for a large increase in the number of state refuges. The returning World War II veterans couldn't afford private duck clubs and pressured the state to provide hunting areas open to the public (Cloyd 2001). Waterfowl Management Areas, such as Gray Lodge, became "Wildlife Areas" that provided for greater recreational use, including more extensive hunting programs.

Meanwhile, the middle years of the 20th century were a relatively uneventful period in the history of the Yolo Basin. The levees had been built, and the floodwaters moved through quickly every few years. The Basin consisted mainly of agriculture--farming and grazing--and duck clubs, which maintained some habitat for waterfowl.

In the winter months, especially when the Bypass flooded, the birds were abundant. The first Audubon Christmas count on record for the Sacramento count circle, which includes a part of the Bypass, was completed in 1949 by the Sacramento Audubon Society and has continued ever since.

CHANGE IN THE YOLO BASIN

The official opening of the Yolo Bypass Wildlife Area took place in 1997, but the plans were in the making for some ten years before that. Ted Beedy covered the Yolo Basin on many Audubon Christmas counts. He and fellow birders, including Terry Colborn and Andy Engilis, knew that the area was a significant place for birds when flooded. A year-round managed wetland became the dream. Beedy and Steve Chaaney, at the time both ecologists at the environmental consulting firm Jones and Stokes Associates, drew a conceptual map and later developed a plan for a refuge and began talking to people about it. Robin Kulakow, one of the founders of the Putah Creek Council joined the core group with an idea of forming a non-profit to support the proposal. This group was to become the Yolo Basin Foundation.

Meanwhile Ted Beedy took U.S. Congressman Vic Fazio out to look at the proposed site, and Fazio liked what he saw. The plan gained momentum with support from the Yolo County Board of Supervisors, the US Fish and Wildlife Service, and California Waterfowl Association. Supervisor Betsy Marchand, initially opposed to the concept, became a strong proponent, and it was she who first approached State Assemblyman Tom Hannigan to work on a purchase by the state.

In 1991, the State Wildlife Conservation Board approved \$4.75 million for the purchase of 3,100 acres, but, before the Board could move, developers bought the property.

Vic Fazio remained involved, and spearheaded the effort to convince the U.S. Army Corps of Engineers to implement one of its early restoration projects. This was possible because the Yolo Bypass levees had been built by the Corps. In May 1991, the U.S. House of Representative approved \$1.6 million in the Corps' budget for the Yolo Basin Wetlands Project.

By the end of 1991, the developers who had bought the Yolo Basin property sold it to the Wildlife Conservation Board, and the California Department of Fish and Wildlife (CDFW; then called *Department of Fish and Game*) released a draft management plan for the Wildlife Area.

In 1993, The Central Valley Habitat Joint Venture funded "*A Suitability Analysis for Enhancing Wildlife Habitat in the Yolo Basin*" (Jones and Stokes Associates 1993), prepared by Steve Chainey, Marcus (Pete) Rawlings, and Ted Beedy, among others. This study provided a comprehensive resource inventory of the property. The Yolo Basin Action Plan Working Group began monthly meetings to discuss solutions related to vegetation maintenance within flood control guidelines, endangered species habitat management, and mosquito control.

IF YOU BUILD IT, THEY WILL COME

Several years of meetings by local, state, and federal organizations ensued. In August of 1995, Secretary of the Interior Bruce Babbitt was the keynote speaker at the groundbreaking ceremony. The Corps of Engineers gave the go-ahead, and Ducks Unlimited completed the first phase of wetlands restoration in November. In December, during the Sacramento Audubon Christmas count, the first Northern Pintails (*Anas acuta*) were observed using the newly constructed ponds in the Yolo Basin Wetlands, which was renamed the Vic Fazio Yolo Wildlife Area to honor the congressman who had helped make it happen.

On a rainy day in November 1997, President Clinton spoke at the celebration held at the Wildlife Area to mark the completion of the Yolo Basin Wetlands Project by the Corps of Engineers and its transfer to the California Department of Fish and Game. At that time, the name officially became the Yolo Bypass Wildlife Area (California Department of Fish and Game 2008), although many people still call it the Vic Fazio Yolo Wildlife Area, and Congressman Fazio continues to be a strong supporter.

CREATIVE MANAGEMENT

In October 1998, Dave Feliz was hired as the Manager of the Yolo Bypass Wildlife Area, a position he held for nearly 12 years. An avid birder, reptile and amphibian enthusiast, and nature photographer, Dave brought a unique perspective to the newly created Wildlife Area. A supporter of the CDFW's hunting mission, Feliz was also interested in doing more for non-game wildlife and the non-hunting public than traditionally seen at state wildlife areas.

He was well aware that the primary role of the Yolo Bypass was to move flood waters, and he quickly realized the importance of water management in driving design. The auto tour loop was redesigned under Feliz's direction to make bird viewing better for the public, while still remaining attractive for migratory birds, as well as allowing the flood waters to pass through unimpeded. As part of the restoration of the new lands, existing wetlands were reworked. This effort included the creating many loafing islands, which also increased wildlife viewing opportunities on the auto tour route.

In 1999, Feliz and Robin Kulakow, then the Executive Director of the Yolo Basin Foundation, began the Yolo Working Group. The group represented a diverse cross-section of Bypass interests, including landowners, farmers, duck club representatives, government agencies, vector control, and conservation organizations. The Working Group has provided a forum to settle many potentially contentious issues over the years, and it still meets when there are concerns to discuss.

In 2001, facilitated by The Nature Conservancy, the opportunity arose for the Wildlife Conservation Board to purchase an astounding 12,000 additional acres for the Wildlife Area, and by 2002 Feliz was in charge of over 16,000 acres, instead of 3,700. The state paid \$16 million for the additional 12,000 acres in 2001. Half that purchase price could be used as a match for North America Wetlands Conservation Act funds, which were then used to restore wetlands on these new lands. As a result Ducks Unlimited and California Waterfowl Association each received \$4 million to implement restoration projects at the Wildlife Area.

The acquisition of the Glide Ranch and Los Rios properties brought new habitat types to the Wildlife Area. The riparian forests along Putah Creek and vernal pools of the native prairie were spectacular additions to the Wildlife Area landscape. Unfortunately the expanded acreage did not come with any more funds to operate the greatly enlarged property.

Local farmers were interested in keeping some agriculture active on these newly acquired lands. Additionally, land managers had long observed the importance of agricultural lands to wildlife in the Central Valley. It became clear that agriculture would play an important long-term role in the management of the Wildlife Area.

Feliz worked with John Currey of the Dixon Resource Conservation District (RCD) to develop a plan to continue farming and ranching on some of the Wildlife Area. This would provide funding from agricultural leases for infrastructure improvements, and the RCD would handle the leases and the funds generated by these leases. As a result of this unique arrangement, the Wildlife Area eventually has earned about \$500,000 annually from the farming and grazing leases, and the money was invested directly back into the property. Transportation and irrigation infrastructure was improved

throughout the Wildlife Area, which has increased public access and made the management of additional wetlands possible. That innovative program, however, was stopped by the state in 2013 and replaced with another system that has allowed the agricultural activities to continue.

The farmers and ranchers who have leases at the Wildlife Area know that managing for the benefit of wildlife is part of the package, and this is well illustrated by Jack DeWit, whose family farms some 1,800 acres of rice, most of it wild rice. He and Feliz began a then very innovative program to attract shorebirds. Every year DeWit fallows around 200 acres of his rice fields and then floods them a few inches deep for the shorebirds in the summer months, usually 100 acres in July and 100 in August. The birding community has been very pleased with the results of this program.

When Dave Feliz left the Wildlife Area in June 2011, over 6,000 acres had been restored to wetlands.

NEW LEADERSHIP

The Wildlife Area was without a manager for nine months, until Jeff Stoddard arrived in March 2012. Stoddard had been the coordinator of Fish and Wildlife's California Landowner Incentive Program, and before that he was the manager of the Orange County Ecological Reserve.

Stoddard admires the work in growing the Wildlife Area from 3,700 acres to 16, 800, but he feels strongly that with CDFW's limited budget, his job is to organize and consolidate the existing recourses, not expand them. He says, "I think in five year blocks of time. You've got to, with such a large, complex property." His goal is to "reset" the seasonal and permanent wetlands every three to five years. By that he means that Fish and Wildlife employees drain a given pond, then go in with an excavator to remove overgrown vegetation, disc it, and, finally, add water. Jeff wants to redo 20-30% of the ponds each year, thus the five-year time horizon to rotate through all of them (Brice 2012).

Jeff also has begun a policy of staggering the fall flood-up. Some water is put on early for the hunting season, but most is held back until November-December to provide fresh food sources for the bulk of the waterfowl arriving from the north. This later flooding also helps with mosquito control.

Stoddard has held two meetings with representatives of the Yolo and Sacramento chapters of the Audubon Society in the last year and plans to continue them in the future. He explained his management plans and listened to suggestions from the birding community at the meetings. One of the important outcomes was that the Wildlife Area now has a new exit road for hunters. This has relieved tensions between the birders and the hunters by decreasing the overlap of the two groups.

Table 1. Listed Threatened and Endangered bird species and California Bird Species of Special Concern that occur regularly at the Yolo Bypass Wildlife Area. (Information sources: Shuford and Gardali (2008), eBird, and S. Hampton, E. Whisler, M. Perrone, C. Conard, and D. Airola, personal communications.)

Species ¹	Legal Status ²	Status at Yolo Bypass Wildlife Area
Redhead (<i>Aythya americana</i>)	CSSC-P3	Irregular year round, rare local breeder.
American White Pelican (<i>Pelecanus erythrorhynchos</i>)	CSSC-P1	Common, non-breeding year-round resident
Least Bittern (<i>Ixobrychus exilis</i>)	CSSC-P2	Apparently rare regular breeder, with records in summers 2009-2013, and young seen in some of these years. Difficult to detect due to secretive behavior.
Northern Harrier (<i>Circus cyaneus</i>)	CSSC-P3	Common year-round, but more abundant in fall-spring.
Greater Sandhill Crane (<i>Grus canadensis tabida</i>)	ST	Presumably, small numbers breed annually Irregular, but present through fall to spring
Lesser Sandhill Crane (<i>G. c. canadensis</i>)	CSSC-P3	Irregular, but present through fall to spring
Snowy Plover (<i>Charadrius alexandrinus</i> , inland population)	CSSC-P3	Rare but regular spring and fall migrant; has nested on two occasions
Black Tern (<i>Chlidonias niger</i>)	CSSC-P2	Rare spring and fall migrant. Several mid-summer records
Burrowing Owl (<i>Athene cunicularia</i>)	CSSC-P2	Uncommon spring and fall migrant; nests locally within Wildlife Area

Table 1 continued.

Species ¹	Legal Status ²	Status at Yolo Bypass Wildlife Area
Short-eared Owl (<i>Otus flammeus</i>)	CSSC-P3	Irregular migratory and wintering resident.
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	CSSC-P2	Uncommon year-round. Presumed breeding species
Least Bell's Vireo (<i>Vireo belli pusillus</i>)	FE	1-3 singing males occupied Putah Creek Sink area during 2010, 2011, and 2013, but no nesting observed.
Purple Martin (<i>Progne subis</i>)	CSSC-P2	Irregular migrant. Attempts to attract breeders to nest boxes since 2008 have been unsuccessful
Yellow Warbler (<i>Setophaga petechia</i>)	CSSC-P2	Regular spring and fall migrant. No nesting records
Oregon Vesper Sparrow	CSSC-P2	Rare fall migrant
(<i>Pooecetes gramineus affinis</i>)		
Bryant's Savannah Sparrow	CSSC-P3	Breeds locally but apparently regularly.
(<i>Passerculus sandwichensis alaudinus</i>)		
Grasshopper Sparrow	CSSC-P2	Rare regular breeder.
(<i>Ammodramus savannarum</i>)		
Song Sparrow (Modesto population)	CSSC-P3	Common breeding and wintering taxa
(<i>Melospiza melodia</i>)		
Tricolored Blackbird (<i>Agelaius tricolor</i>)	CSSC-P1	Uncommon winter resident; irregularly nests locally.
Yellow-headed Blackbird	CSSC-P3	Common spring migrant. Uncommon summer breeder and winter resident.
(<i>Xanthocephalus xanthocephalus</i>)		

¹Status designations are: FE—Federally Endangered ST—State Threatened CSSC—CA Species of Special Concern P1, 2, 3—Priority 1, 2, 3

²The following species were not included because their occurrence is highly limited and irregular: Tule White-fronted goose (*Anser albifrons elgasi*), Bald Eagle (*Haliaeetus leucodpehalus*), and Yellow-breasted Chat (*Icteria virens*).

SIGNIFICANCE OF THE WILDLIFE AREA TO BIRDS

In 1998, Joan Humphrey and Don Stoebel wrote the article “*Yolo Bypass Wildlife Area: A Birding Hotspot in the Making*” for the CVBC Bulletin (Humphrey and Stoebel 1998) and said it was just waiting to be discovered by birders. They pointed out that the area had already been designated as “Globally Important” in the American Bird Conservancy’s United States Important Bird Areas Program. In 2004, Audubon California (2004) included the Yolo Bypass, and specifically the Wildlife Area, in its publication “*Important Bird Areas of California*”.

As time passes, more and more people are coming to the Yolo Bypass Wildlife Area to look for birds, and they find them. For example, birders have submitted nearly 2,500 checklists from the Yolo Bypass (as of 30 April 2015) to eBird, the global electronic bird record database. Two hundred forty-three species have been recorded from the Bypass in eBird (<http://ebird.org/ebird/hotspots>).

Establishment and management of the Wildlife Area has contributed to changes in bird species occurrence and abundance in recent years (Perrone 2015). The availability of at least some wetlands all year and flooding after rice harvest has been a boon for the birds.

The Wildlife Area supports populations of sensitive bird species that are of local, regional, and statewide importance. Three bird species that are formally listed as federal or state Endangered or Threatened occur (Table 1). The Greater Sandhill Crane (*Grus canadensis tabida*) occurs regular in low numbers. Persistently singing male Least Bell’s Vireos (*Vireo belli pusillus*) have occurred on the Wildlife Area in several recent years, but no breeding has been documented. Tricolored Blackbirds are common wintering birds on the Wildlife Area, but do not breed there. Eighteen species designated as California Species of Special Concern (Shuford and Gardali 2008) occur regularly in the area (Table 1). The Wildlife Area is contributing to maintaining populations of these species, which reduces the potential need for future listing.

Since its inception and provision of public access, the Yolo Bypass Wildlife Area also has attracted a large number of rare birds that often attract substantial attention from birders (Hampton 2015).

The Wildlife Area also supports a diverse array of other vertebrates, invertebrates, and plants associated with wetlands, rice fields, and grassland, including the state-listed giant garter snake (*Thamnophis gigas*).

THE ROLE OF THE YOLO BASIN FOUNDATION

No history of the Yolo Bypass Wildlife Area is complete without presenting the role of the Yolo Basin Foundation. Founded in 1990, the non-

profit Foundation was a driving force behind the establishment of the Wildlife Area. It is dedicated to the appreciation and stewardship of wetlands and wildlife through education and innovative partnerships. It carries out this mission with a 20-member board of directors, a small staff, and over 100 volunteers. The organization's work is funded by grants and private donations. Its signature education program is "Discover the Flyway," which hosts over 4,000 school children a year at the Wildlife Area and strives to develop future environmental stewards. The Foundation also sponsors a variety of outreach events for people of all ages, including monthly tours to the wetlands, a speaker series, a summer bat program, California Duck Days, and other special tours and activities. In addition, Yolo Basin Foundation serves as an advocate for issues involving the Wildlife Area and plays a significant role in policy discussions relating to the larger Yolo Bypass and the Wildlife Area's place within it.

Yolo Basin Foundation communicates with the public via a monthly e-newsletter, a printed newsletter for members, a Facebook page, and a website (www.yolobasin.org), which has up-to-date information on Wildlife Area activities, such as road closures, rare bird sightings, and tours.

MOVING FORWARD—THE IMPORTANCE OF PARTNERSHIPS

The history of the Yolo Bypass Wildlife Area is a story of vision and collaboration. The initial vision was realized, and in fact greatly exceeded, through dedication and cooperation of a diverse group of local individuals and organizations as well as large, federal and state entities including the US Army Corps of Engineers and California Department of Fish and Wildlife. The existence of the Yolo Basin Foundation, as the nonprofit partner for 25 years, has been a unique relationship in the world of wildlife refuges. Guidance from the Central Valley Joint Venture, as well as California Waterfowl Association and Ducks Unlimited has helped set the management course. The unprecedented partnership with the Dixon Resource Conservation District in managing the farm leases, and the ongoing relationships with the local farmers and ranchers have benefited the Wildlife Area in many ways. Finally, the growing communication between local conservation and birding groups and Wildlife Area managers will help steer the direction in the future. The Yolo Bypass Wildlife Area would not be what it is today without the countless partners standing with it.

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Tundra Swans and the Sacramento Skyline. Yolo Bypass Wildlife Area, Yolo County, California. *Photo © Dave Feliz*



Umbrella barn & Goldfields. Yolo Bypass Wildlife Area, Yolo County, California.