

## **APPENDIX E**

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Yolo Wildlife Area, Program History and Overview



# Yolo Wildlife Area Program History and Overview



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## *Mission Statements*

Managing California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public.



Dedicated to the stewardship and appreciation of wetlands and wildlife through education and innovative partnerships.



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# Introduction

## History of the State Department of Fish and Game

The Pacific Flyway is a migration corridor that spans the length of the Americas. It has birds moving both north and south in regular but chaotic natural rhythms. The birds have no idea what country they are in or who is responsible for the management of the habitat that sustains them. Fortunately, in California there is a long standing history of conservation that is still evolving to this day. We believe the Yolo Wildlife Area has played a part in this evolution that began with the generosity of hunters and has expanded to be inclusive of all users.

The California Department of Fish and Game has its roots in an era when the natural bounty of California began to be at risk from an increasing populace. Although a few Grizzly Bears still roamed the hills of California and salmon migrated by the thousands up multiple streams to spawn, the Central Valley was already being drained and set into cultivation. Our own California Grizzly had been hunted out of the Valley and the tule elk came precipitously close to extinction as it hung on in the remote marshes of the San Joaquin Valley.

The effort to protect fish and wildlife populations began with the establishment of the Board of Fish Commissioners in 1870. This predates any other state or federal wildlife conservation agency in the country. This later became the Fish and Game Commission, whose duties were assumed by the Division of Fish and Game in 1927. This Division eventually became the Department of Fish and Game in 1951. By this time, Grizzly Bears were extinct in California, tule elk were well on the way to recovery and salmon runs across the state were being impacted by water development projects.

The job of protecting and managing wetlands began with the establishment of the Los Banos Wildlife Area in 1929. The state effort to protect the wetlands of the Central Valley was underway. In 1937 Congress authorized passage of the Pittman Robertson Act which collected taxes on sporting arms and ammunition and applied them to the management of wildlife habitat. A long standing funding source was established and remains to this day, the primary source of operating funds for state wildlife areas.

Today over 50,000 acres of Central Valley habitat is being managed by the Department of Fish and Game. Major facilities include Upper Butte, Gray Lodge, Los Banos, North Grasslands, Grizzly Island and Yolo. Yolo is one of the newest Wildlife Areas, established in 1997.

## Department of Fish and Game at the Yolo Wildlife Area

The Department of Fish and Game had their eye on the Yolo Bypass back in the early 1990's (late 80's) as detailed in land acquisition documents written by the local wildlife biologist. This desire dovetailed with the grass roots effort underway, lead by the Yolo Basin Foundation that emphasized not only the reestablishment of wetlands but also had plans for extensive education efforts that emphasized our own Yolo Basin.

From the beginning, Yolo was destined to become something different. Usually wildlife management activities take place far from the public eye and with an emphasis on the management of game birds such as waterfowl and pheasant. Here was a place situated right at the doorstep of Sacramento with a freeway running through it. The far sightedness of the Wildlife Area's planners broke the mold as they worked to establish wetlands in the Yolo Bypass.

Through the proactive determination of the Foundation, important alliances were developed with the flood control, agricultural, vector control, and environmental communities. These groups and agencies to this day remain our partners as we continue to draw thousands of birds to the Yolo Bypass while managing a wildlife habitat within a local community.

The number one purpose of the Yolo Bypass is to move flood waters away from urban areas and into the Sacramento San Joaquin Delta. The Department made a huge commitment to manage the Yolo Wildlife Area in a way that would always be compatible with this primary function. The Department also committed to managing wetlands in a way that would not create a large population of mosquitoes which could act as vectors in the spread of diseases such as encephalitis and West Nile virus. Finally, assurances were made to the local farmers that the

Department's operations would not hinder their ability to conduct business.

The local agricultural community has always been an active partner in the Yolo Bypass. When the Wildlife Area was established the Department became a partner in the Mace Ranch Irrigation System, sharing in the operation and maintenance costs of these pumps, canals and water control structures. Together we allocate this most precious of resources to accomplish both our agricultural and wildlife habitat management goals.

On the conservation side, there were expectations that Yolo would not only be available for waterfowl and pheasant hunting, but that non game species and non-consumptive uses would also be considered in the management strategies of the Wildlife Area. Non game species have always benefited from the management of game species, but here was an attempt to specifically manage habitats that might primarily benefit shorebirds, neotropical migrants, or aquatic mammals. It is important to note that management is directed towards habitat and not specific species.

Prior to construction of the Wildlife Area, there were concerns raised that the management of wetlands in a flood plain could adversely affect the endangered Giant Garter Snake. The premise was that the management activities necessary to keep the Wildlife Area compatible with flood protection such as discing, and ditch cleaning could result in "take" of an endangered species. With the help of the Yolo Basin Foundation, agreements were signed that reaffirmed the primary purpose of the Yolo Bypass and specifically said the Wildlife Area staff would not manage for endangered species. The result after nearly ten years of wetland management and agricultural activities, is a thriving population of Giant Garter Snakes first discovered in 2004. This is the result of a habitat based management strategy carried out by Fish and Game staff on a multi use Wildlife Area. In other parts of the Wildlife Area, endangered plant populations have been discovered that have co-existed with grazing for over 100 years.

The hunting and fishing community continues to be the primary funding source for Fish and Game programs. Unfortunately the number of people buying licenses, fishing tackle and ammunition has been decreasing for many years. The Department will continue to provide opportunities for the hunting and fishing public at Yolo, but in order to remain relevant in today's world, our mission at Yolo has an

expanded emphasis on environmental education and wildlife viewing.

### **A Day at the Pacific Flyway Center**

This new facility will be many things. It will serve as the main entrance to the Yolo Wildlife Area as well as its center of operations. Visitors will begin their exploration of the Wildlife Area here. A typical winter day may start up to two hours before sunrise, as a Fish and Game employee opens the gate at Mace Blvd, and leads a procession of anxious hunters down a pitch black entrance road to the check station. As the check station comes to life, groups of camouflaged hunters queue up before being allowed into the field. Yolo Basin Foundation and Fish and Game staff will start arriving at 7:00 as the barely audible opening salvos join the sun's rays stretching across the bypass. With first light, birdwatchers are staring into the canopy along Putah Creek looking for that vagrant warbler reported on the internet. The phone starts ringing at 8:00 and a flurry of activity is underway in anticipation of the first school bus coming at 9:00. Around this time, participants of a Fish and Game meeting may begin arriving in the parking lot, a place filled with the sights and sounds of a school bus full of eager students. The activity at the check station intrigues both groups and all agree the camo is cool. By mid morning, the coffee is flowing in the conference room and the kids are well into their lessons. During the morning break, meeting participants wander over and watch the kids identifying a cinnamon teal or step out onto the observation platform and gaze through the spotting scope at a distance flock of white-fronted geese.

As the day comes to an end, perhaps there is an evening presentation in the Pacific Flyway Center or a planned sunset tour to watch the massive flyout of birds from the closed zone. The last hunters wearily make their way into the check station hoisting a full belt of mallards and a goose. The long walk to the rice fields was worth it.

The Wildlife Area staff has never tried to hide one type of activity from the other. Long ago we realized that our many users have much more in common than they may realize. Like the birds that they both love, they both need habitat. It is this identification of common ground that exemplifies the philosophy of the Yolo Wildlife Area yielding an expanded constituency. From these people comes broad based support to continue to break new ground for the benefit of our natural resources.



The Pacific Flyway Center represents this new face of the Department of Fish and Game. It will belong not just to the environmental community but to the population at large who through our efforts may come to recognize their own passion for the outdoors. It will be a place to showcase what the Department of Fish and Game does, a mission with its origins in the 19<sup>th</sup> century and its eye on a future filled with wildlife adventures for all.

## *History of Yolo Basin Foundation*

The Yolo Basin Foundation has its roots in the establishment of the Vic Fazio Yolo Bypass Wildlife Area (Wildlife Area), a project founded on public education and a community working together. Beginning in 1989, a broad coalition of conservationists, hunters, farmers, business people, elected officials, and local, state, and federal agencies worked to restore the wetlands of the Putah Creek Sinks located in the Yolo Bypass. The Wildlife Area, opened to the public in 1997, is the physical embodiment of the Foundation's mission: it restored a critical link in the Pacific Flyway through cooperative, innovative partnerships and is the principal focus of the Foundation's educational programs.

This effort literally began around kitchen tables and living room floors with discussions among members of Putah Creek Council and Yolo Audubon Society. They had a vision of reestablishing a portion of the wetlands of the Putah Creek Sinks that were once part of a vast inland sea. The first presentation to an elected official, Yolo County Supervisor Betsy Marchand, was given on Robin Kulakow and Bill Julian's living room floor. After reviewing the concept, Betsy soon pledged her support and quietly went to work building support for the project at many levels. The California Department of Fish and Game agreed to pursue purchase of land in the Putah Creek Sinks area if it could be assured that an adequate water supply existed. At that point the Central Valley Habitat Joint Venture became involved. They funded a study of the potential water supply. At the same time, the City of Davis proposed that a portion of the wetlands be restored at the city water pollution control plant.

The Board of Supervisors and the Davis City Council gave its unanimous support to the effort in November 1990. Once local support was established, staff for Congressman Vic Fazio became involved in the discussions. Mr. Fazio eventually secured federal funding that same year, and the US Army Corps of Engineers (Corps) involved. In 1990, a \$1 million appropriation was approved for the Corps to begin the Yolo Basin Wetlands project, the first of the Corps' Section 1135 habitat restoration projects nation-wide. In 1991, the Corps released the draft Environmental Assessment for the Yolo Basin Wetlands project. By the completion of the Corps'

Project in 1997 approximately \$12 million in federal funds were expended.

Assemblyman Tom Hannigan also threw his support behind the project by working with the Wildlife Conservation Board to approve the first of four purchases that would form the heart of the new wildlife area. The 3700-acre Putah Creek Sinks Unit was purchased in 1991 by the Wildlife Conservation Board, becoming the new Yolo Bypass Wildlife Area. Mr. Hannigan's support was also key in adding the area known as the Causeway Site, two hundred acres just north of I-80, to the project by facilitating a transfer of ownership from Caltrans to State Fish and Game.

The planning and fact finding efforts of the initial group grew into the Yolo Basin Working Group, an ad hoc organization of people representing local, state, and federal government agencies and elected officials, local, statewide and national conservation groups, agricultural interests, land owners and the Central Valley Habitat Joint Venture. Yolo Basin Foundation from the very beginning has stressed the importance of hunters, private landowners, and the environmental community working together. The goal has always been to encourage wildlife habitat restoration and management that is compatible with flood control and existing farming practices.

The idea for the Foundation grew out of the Working Group to facilitate the overall effort and provide support from the local community. When it became clear that there was the need to coordinate local support for this ever-expanding project, Robin Kulakow went to work developing what was to become the Yolo Basin Foundation.

The Yolo Basin Foundation was incorporated in 1990. The initial board of directors represented the many interests participating in the Working Group. Robin became the executive director and embarked on a decade long odyssey for her and her family and friends. She opened an office in her home that was to serve as the Foundation's headquarters for ten years. At about this same time, the Foundation initiated its education programs by conducting tours of other wildlife areas and developing the "Wild about Wetlands" classroom kits to teach lessons on wetlands habitats.

For several years the Working Group met monthly to discuss the many issues including the effect of creating and managing habitat in the Yolo Bypass, a key component of the Sacramento River flood control system. The effect of increased vegetation on movement of flood waters and the need to maintain a clear floodway was of paramount concern. There was also concern that an increased presence of endangered species would compromise the flood control agencies' ability to maintain the floodway.

Numerous other issues had to be resolved. Many people were concerned with the potential increase in mosquitoes near an urban area. Landowners were concerned that traditional farming practices would not be tolerated near a wildlife area and their livelihood would be adversely affected. There was also the concern over loss of farmland in Yolo County. At one point a new route for incoming flights to Sacramento International Airport was proposed. Many voiced concerns over the potential for conflict with increased air traffic and migrating birds.

Over time many agencies became involved including State Dept. of Water Resources, The State Reclamation Board, Sacramento-Yolo Mosquito and Vector Control District, Yolo County Farm Bureau, Yolo Resource Conservation District, Sacramento International Airport. Landowners in the project vicinity also attended the working group meetings. The Central Valley Habitat Joint Venture, working with Robin, served as the coordinating entity for the Working Group meetings for several years. Each issue was worked through over a number of years and the Yolo Wildlife Area became a reality.

Yolo Basin Foundation played a critical role in facilitating this multi-agency effort. In January 1994 the State Reclamation Board gave final approval of a precedent-setting Memorandum of Understanding (MOU) on Threatened and Endangered Species. This agreement was facilitated and finally drafted by Foundation board members. It outlines a set of actions that address the concerns of state and federal flood control agencies and state and federal wildlife management agencies. The signing of this MOU represents a model of interagency cooperation that has guided other habitat restoration efforts. Representatives of The Reclamation Board, Department of Water Resources, State Department of Fish and Game, US Fish and Wildlife Service, and the US Army Corps of Engineers signed the MOU at a special ceremony arranged by Congressman Vic Fazio in February 1994.

The support of local elected officials and the local community has been crucial at every stage in this complex project. The Yolo Basin Foundation continues to coordinate this support. The time and expertise donated by many professionals associated with the Foundation was also critical in keeping the project moving.

A project of this magnitude requires commitments from many agencies. The 3700-acre Wildlife Area site (Putah Creek Sinks Unit) was purchased by the Wildlife Conservation Board for the State Department of Fish and Game in 1991. In subsequent years, the two additional units were added and the 13-acre headquarters site was purchased.

The US Army Corps of Engineers, through their Yolo Basin Wetlands Section 1135 project, provided planning, environmental review, and initial design of the area. The Corps contracted with Ducks Unlimited to do the engineering design and specifications for the habitat restoration. DU also managed the on-site work. Construction of the wildlife area infrastructure began July 1995.

In 1995, after many years of planning represented by hundreds of meetings and thousands of phone calls on site work began. To celebrate this important milestone the Wildlife Area was the site of a groundbreaking ceremony at which Secretary of the Interior, Bruce Babbitt, attended along with Congressman Vic Fazio and many other dignitaries. He spoke about the significance of landscape wide projects and the importance of the vision of individuals. At that time, the US Fish and Wildlife Service gave the Foundation their National Wetlands Award for the Private Sector.

On a very stormy day in November 1997 President Clinton came to dedicate the Wildlife Area. In his speech he recognized the leadership of the Yolo Basin Foundation and gave accolades to the many partners that made the effort successful. He referred to his bridge to the next century and said "You're doing the right thing and you're doing it the right way...there is no challenge facing this country that we cannot meet if we will just do what you have done here." Congressman Vic Fazio, Deputy Secretary of the Interior John Garamendi and the National press reports credited the Foundation for its role in constructively bringing the complex project together. Assistant Secretary of Civil Works for the US Army Corps of Engineers, John Zhirsky, Deputy Secretary



of the Agriculture, Richard Rominger and 800 enthusiastic supporters celebrated alongside the President.

State Department of Fish and Game now owns and manages the Wildlife Area as part of its statewide wildlife area program. The first ponds were flooded in 1997. That year the Fish and Game Operations and Maintenance Facility (Headquarters) was completed and Fish and Game staff moved in. That same year Yolo Basin Foundation opened a program office in the Headquarters. Also in 1998, Congress changed the name of the Corps' Yolo Basin Wetlands project to the Vic Fazio Yolo Wildlife Area. In 2000 the Foundation office was moved from Robin's home to a modular office unit located behind the Fish and Game office.

Habitat restoration for the three acre Yolo Demonstration Wetlands, behind the DFG Headquarters, began in 1998. Design services and plants were provided by the Corps'. The Foundation raised the funding for the earthmoving and signs for the 3-acre project. The irrigation system was installed and the plants put in as part of an Eagle Scout project in the summer of 1998.

Education is at the heart of the Foundation's mission, and in June 1997 the Yolo Basin Foundation signed a Memorandum of Understanding with State Fish and Game recognizing their long-term partnership to provide public outreach and educational pro-

grams. The MOU allows the Foundation use of the Fish and Game facilities for office space and as a base for programs related to the Wildlife Area. The first teacher workshop for the *Discover the Flyway* program for schools was held in August 1997 and classes began coming to the Wildlife Area that fall. Over 800 teachers have been trained as part of the program. They have brought over 20,000 students from 100 different schools representing 18 different school districts to the Wildlife Area since the inception of the program. The participants come from a large regional area including Yolo, Solano, Sacramento, Placer and El Dorado Counties.

In 2001, the Wildlife Conservation Board purchased the 12,000-acre Glide/Los Rios properties, expanding the Yolo Wildlife Area to 16,000 acres. Yolo Basin Foundation worked very closely with Department of Fish and Game to build community support for the purchase. This acquisition added additional habitat types to the Wildlife Area including riparian forest and vernal pools. The Foundation will assist the Department of Fish and Game in the development of the Wildlife Area Management Plan in the coming year. After completion of this plan, many of the new lands will be restored into wetland, upland and riparian habitat.

The Yolo Basin Foundation has earned a reputation for collaboration with diverse public and private partners to further issues of mutual concern. Over the years it has gained the trust of the local farmers

and duck club owners. This trust has carried over into Fish and Game's desire to manage the Wildlife Area as part of the local community.

Currently the Foundation is the facilitator of the Yolo Bypass Working, a group it founded in 1998 to discuss agriculture, habitat, and water management issues among the many agencies, individuals, and organizations with an interest in the Bypass. This effort is funded with a grant from the California Bay Delta Authority (CBDA). Under the leadership of the Yolo Basin Foundation, the Working Group completed a Management Strategy for the Yolo Bypass that was published in 2001.

The success of the Working Group has led to other collaborative efforts including the Yolo Bypass Modeling Technical Advisory Committee, the Colusa Basin sub-committee, and the Yolo Bypass Stakeholder's Water Quality Group. In 2005 the Foundation, with funding from CBDA, sponsored the Lower Yolo Bypass Stakeholder Process Feasibility Assessment. This study recommended that a formal collaborative process be initiated to resolve some of the long-term management issues in the Lower Bypass. If the process is funded, the Foundation will be the sponsoring entity.

A 15 member Board of Directors governs Yolo Basin Foundation. Board members with diverse interests are sought so that hunting, agriculture, education, science, and business interests are always represented.

In 1990, the Foundation started off with a \$10,000 grant from the Packard Foundation and one file cabinet. Fifteen years later the Foundation's annual budget is about \$300,000. Of this about 55 percent goes to salary. Employees currently work in a modular office unit owned by the Foundation. DFG also allows the Foundation to use one office in the Headquarters for program coordination.

The Foundation raises operating funds in many ways. Unrestricted income is about 55 percent of total income. Membership donations from \$25 to \$2500, an annual fundraiser, Duck Days income, donations from field trips, and some sales make up the unrestricted income. Restricted income includes project specific government funds from CBDA and Central Valley Joint Venture. Per the 1997 MOU with Fish and Game, the Wildlife Area staff also helps facilitate the operation of the education program by providing supplies and maintaining the

Demonstration Wetlands. Private foundation grants are also received for program specific uses. Over time the government funding has decreased due to federal and state cuts to environmental education programs. A limited number of private foundations like to support environmental education programs. Government and private foundation funding cannot be relied on for long term operating funds. To meet this challenge the Foundation is working to increase unrestricted income. There has been 10 percent gain in unrestricted income this fiscal year.

Yolo Basin Foundation has been recognized for its achievements in many ways including the Governor's 2001 Environmental and Economic Leadership Award for the Yolo Bypass Working Group. Other awards include, the Award for Excellence in non-profit management from the San Francisco Management Center and Chevron (1991), recognition for Outstanding Implementation Project for the Comprehensive Conservation Management Plan for the San Francisco Bay Estuary by the Friends of the Estuary (1996), Public Education Award (to California Duck Days), Sacramento River State of the River Conference (1997), an Honor Award from the Design and Environmental Awards Program for 2000 by the Chief of Engineers, US Army Corps of Engineers and in 2005 the Conservation Education Award from the Soil and Water Conservation Society.

## *History of Planning for the Pacific Flyway Center*

The Pacific Flyway Center has been a dream for well over a decade. Spearheaded by the Yolo Basin Foundation in partnership with the California Department of Fish and Game, the project has the support of an impressive list of leaders in the fields of flood control, education, recreation, and agriculture. The project is supported by local elected officials and has the endorsement of the Director of the Department of Fish and Game and the Resources Agency Secretary. Additionally, the California Wildlife Conservation Board purchased the Flyway Center site in 2001 and plans to fund the construction of the building. The California Bay Delta Authority is funding the initial planning efforts through a grant to the Yolo Basin Foundation.

The idea for a visitors' center associated with restored wetlands of the Putah Creek Sinks was first mentioned in 1990 in a case statement written when the Yolo Basin Foundation was founded. Over the years various committees of the Board of Directors have met to discuss many aspects of establishing a center. Numerous studies have been funded to further this goal.

In 1996 the David and Lucile Packard Foundation funded an economic analysis of potential income generation from a center. The goal of the Foundation board was to see if a center could be self-supporting. Economic Research Associates was hired to do the analysis. The final report was entitled "An Analysis of the Potential Market Support and Economic Performance of the Proposed Yolo Basin Center." ERA concluded that a center could be self-supporting only if there is a large commercial activity component. The Board decided that the scale of commercialism necessary did not fit their vision.

The University of California at Davis proved to be a good resource for looking at alternatives for a visitor center. In 1999, students at the Graduate School of Management did a study called "A Strategic Analysis of the Proposed Pacific Flyway Center." This study was a market analysis that looked at three visitation scenarios and the associated budgets. That study was continued by another group of students in 2002 with a report entitled "Benchmarking Multi-Agency Visitors Centers: Continued Analysis for the Proposed Pacific Flyway Center."

In 1998 the Foundation received grant funds to hire Gyroscope to do a vision document. This company conducted about 50 interviews with community leaders to ascertain what type of interest there was in a Visitors' Center. They compiled the data in order to describe a set of programs that were identified in the interviews.

Also in 1998, the Yolo Basin Foundation purchased a two-year option to buy property located adjacent to the Wildlife Area entrance, west of the levee and south of Chiles Road. This 200-acre parcel was identified as a potential site for the Visitors' Center. During the 2 years of the option, Yolo Basin Foundation hired Cunningham Engineering to conduct due diligence studies. A consensus was never reached that fully supported the Brandenburger property as the preferred site. Additionally, at the end of the two-year option, the Foundation was not in a financial position to purchase the property and the option lapsed.

From 1998 through 2000, a group independent from the Foundation board, called the Pacific Flyway Center Advisory Committee, met to discuss the vision for a center. Over 50 people representing many community organizations and agencies attended these meetings. It was this committee that chose the name Pacific Flyway Center. Over time the vision of this group grew to unrealistic proportions, ultimately arriving at a vision of a center that would cost over \$24 million. At this point the Advisory Committee was reorganized by the Board of Directors into a committee of the Board. In order to keep the vision more in line with the capacity of the Foundation, it was determined that the chair of the committee would be a member of the Board of Directors.

The newly reorganized Pacific Flyway Center Committee meets monthly. This committee reports directly to the Yolo Basin Foundation Board. Representatives of the Department of Fish and Game (DFG), the Wildlife Conservation Board (WCB), the Foundation, the Central Valley Habitat Joint Venture, Congressman Thompson's office, and Assemblywoman Lois Wolk's office participate on this committee. The City of Davis Mayor pro tem and the City Open Space Coordinator also attend. In the last six months the project manager from State Parks



has been participating as well.

In 1998, Congressman Vic Fazio worked to get funding for the US Army Corps of Engineers to participate in the effort to create the Pacific Flyway Center. This was done in the form of inclusion of a line item in the Water Resources Development Act that authorizes the Corps to initiate a Section 206 Habitat Restoration Project. This is a nationwide continuing authority program with a spending cap of \$5 million per project. A 35 percent local cost share is required. Between 1999 and 2004 the Corps spent about \$800,000 doing a feasibility study, a project proposal with a conceptual design and a draft Environmental Assessment. In 1994 nationwide funding for Section 206 projects was severely cut. As a result the Corps' participation was not funded and work on the Pacific Flyway Center 206 project ceased.

In 2000 the Board of Directors determined that a site analysis for the Pacific Flyway Center was needed. Using grant funds from the Packard Foundation, The Dangermond Group (TDG) was hired to look at about seven different sites in the vicinity of the Wildlife Area and the current Fish and Game Headquarters on Chiles Road. After a thorough analysis and discussions with the WCB, Fish and Game chose a 69-acre site purchased specifically for the Center by WCB in 2001 as part of the larger 12,000 acre Glide/Los Rios acquisitions.

In 2003, Department of Fish and Game made an official commitment to the Flyway Center effort. The partnership was defined as Fish and Game owning and operating the Flyway Center and Yolo Basin Foundation providing the educational programs. Discussions were held with California Audubon regarding expanding the partnership. The Audubon board voted to pursue a partnership role with the Flyway Center. Unfortunately there were changes on the Audubon board and with their staff that effectively ended their participation.

Yolo Basin Foundation in partnership with TDG submitted a grant proposal under the California Bay Delta Authority (CBDA) Watershed Restoration Program to fund initial planning for the Pacific Flyway Center. The proposal was successful and in January 2004 the Foundation signed a contract with CBDA for \$330,000 in funding. TDG was subcontracted to provide project management and planning services. This grant is administered by GCAP Services for CBDA.

In 2004 TDG and Yolo Basin Foundation worked with DFG and WCB to structure the partnership for the Flyway Center. A letter was signed by the Foundation, Fish and Game, and WCB defining the duties of the Management Oversight Committee as the decision-making entity for Flyway Center planning. TDG worked with the Corps on various issues and provided a draft design for the restoration of wetlands on the 69-acre site. They also worked with the Department of General Services (DGS) in preparation of a Budget Change Proposal that was to be submitted to the State Department of Finance.

The Foundation and Fish and Game worked with a state architect from the Design Services Branch of DGS for about three months. In June 2004 it was determined that a different partnership would be better suited for planning the Pacific Flyway Center and DGS stopped participating. In August 2004, WCB approved an interagency agreement with the State Department of Parks and Recreation (DPR) for project management services. Don Bybee, an architect with DPR, became the project manager for the Flyway Center project in fall 2004.

About forty acres of the 69-acre demonstration wetlands site has been restored to Central Valley wetland habitat including seasonal and permanent wetlands, riparian forest, and uplands. This complex will serve to educate visitors about habitats found throughout the adjacent 16,000-acre Wildlife Area inside the Yolo Bypass. Ducks Unlimited, under contract with Fish and Game, completed the design specifications and construction of the demonstration wetlands in spring 2007. The project layout was based on design documents given to Ducks Unlimited in 2005. This design is based on knowledge gained by DFG and the Foundation over 8 years of using the 3-acre demonstration wetlands at the Fish and Game Headquarters on Chiles Road for thousands of student visits. Fish and Game and Foundation staff developed the design together to meet the needs of their growing educational programs.

In the winter of 2007 DFG Director Ryan Brodrick outlined plans for a Flyway Center site located adjacent to the Yolo Bypass and immediately south of Interstate 80. This site is expected to provide high visibility for the Wildlife Area and attract a large number of visitors.

The Pacific Flyway Center concept has widespread community based support. Local elected officials have supported the project over many years. The following elected officials now in office that are on record in support of the project include: US Congressman Mike Thompson, State Assemblywoman Lois Wolk, and State Senator Mike Machado, The Davis City Council and the Yolo County Board of Supervisors have supported the effort since its inception over a decade ago. The project is supported at the highest levels of state government by Secretary of the State Resources Agency Michael Chrisman, State Fish and Game Director Ryan Broddrick, the Executive Director of the Wildlife Conservation Board and Director of State Parks Ruth Coleman.

See Additional Information for “Summary of Community Outreach and Participation in Developing the Vision for the Pacific Flyway Center” and “Summary of Agency Participation and Funding Sources for Pacific Flyway Center Planning Effort 1996 – 2005”.



# Interpretive Resources

## Historical Perspective

The Yolo Basin was once a nearly 80,000 acre wetland teeming with wildlife, from herds of Tule Elk roaming its marshes to dense clouds of migratory waterfowl seeking winter food and shelter. Yolo was one of several basins situated within the Sacramento River floodplain. They all received water during high winter and spring flows as a normal occurrence. For years, these basins flooded. For years the birds came out of the far north to feed on seeds and invertebrates produced in the wetlands. The resources found in the Yolo Basin sustained many small groups of native Americans through the winter and spring months. The seasonal presence of waterfowl and fish provided food while the wetlands provided building materials such as willow and tules. To this day, the seasonal conditions of the Yolo Basin drive its use and presence of wildlife.

The natural tendency of these basins to receive flood waters resulted in their modification to construct a flood control channel that would shunt water away from the city of Sacramento and into the Sacramento-San Joaquin Delta. The Yolo Bypass was carved out of the Yolo Basin in the early years of the 20<sup>th</sup> century.



For most of this time, the land within the Bypass was used for grazing and farming with limited wetland management taking place on private waterfowl hunting clubs. The historic culture of waterfowl hunting on private clubs continues to this day on our neighboring properties.

The twin goals of reestablishing wetland habitat in the Yolo Bypass, while still maintaining the flood control function of the Bypass are at the core of the Yolo Bypass Wildlife Area's mission. The establishment of the Wildlife Area in 1997 progressed only after this principle was accepted by the project's proponents.



## Biological Resources

Over 200 species of birds have been seen on the Yolo Wildlife Area ranging from arctic breeders in search of a more temperate winter home to species that breed in our area and then go south to the tropical climes of Central and South America. The brilliantly colored Orioles, Blue Grosbeaks, and Western Kingbirds are still feeding young when the first Alaskan shorebirds arrive on their Yolo wintering grounds.



Following on the heels of the shorebirds are waterfowl, arriving in tremendous waves through the winter in search of food and shelter.

Thousands of Northern Pintail, American Widgeon, Mallard, Snow Geese and White-fronted Geese swarm onto the flooded rice and seasonal wetlands of the Wildlife Area with a backdrop of the Sacramento Skyline. Such are the views of the dynamic bird movements on our small piece of the Pacific Flyway.

Thousands of Northern Pintail, American Widgeon, Mallard, Snow Geese and White-fronted Geese swarm onto the flooded rice and seasonal wetlands of the Wildlife Area with a backdrop of the Sacramento skyline. Such are the views of the dynamic bird movements on our small piece of the Pacific Flyway.

Coyotes, raccoons, gray fox and mule deer may occasionally be spotted at the Wildlife Area. Waterways are home to resident aquatic mammals such as beaver, mink and river otters. The extensive water system maintained on the Wildlife Area harbors large numbers of fish, amphibians, and invertebrates. Mitten Crabs, crayfish and shrimp are three very visible invertebrate species, all of which have been introduced to the California ecosystem. Resident fish include catfish, largemouth bass, carp and smaller species such as inland silversides and thread fin shad. With the arrival of fall flows, Chinook Salmon travel upstream into the Yolo Bypass, followed by White Sturgeon and Striped Bass.

Habitat ranges from managed seasonal wetlands to remnant riparian forests along Putah Creek. Further west on the higher parts of the Wildlife Area, floods are rare and a unique vernal pool vegetative community has survived for many years in the presence of cattle grazing. Such rare species such as Grasshopper Sparrows, Ferris' Alkali Milk Vetch and Conservancy Fairy Shrimp are found in these areas.



## Land Management

Habitats found on the Yolo Wildlife Area are intensely managed by the California Department of Fish and Game. A complex system of pumps, canals, and water control structures are maintained and utilized to flood and drain wetlands according to established prescriptions.



These actions mimic the natural flooding and drainage that once occurred in the Yolo Basin. Additionally, vegetation is disturbed by mowing, discing or water management in many of the seasonal wetlands in order to maximize the habitat value of these lands.

Shorebirds are adapted to foraging in shallow water. Different species have different ideal water depths based on their size and leg length. These can range from bone dry mud flats to water approximately 6 inches deep. Historically, shorebirds could find their preferred water depth as they arrived in a Yolo Basin receding from the previous winter's flooding. Today, several fields on the Wildlife Area are deliberately flooded at a variety of depths to mimic this historic hydrology. This groundbreaking wildlife management technique utilizes the infrastructure of rice cultivation, rotating rice production with shorebird management in the same fields.

Waterfowl management exploits the high productivity values of seasonal wetlands. These wetlands undergo a dry period during the summer when annual plants germinate and set seed. These seeds are an important food source for migratory waterfowl. The plants also serve as a substrate for invertebrate production. Some invertebrates are a critical source of protein for waterfowl, especially during the winter months, as ducks and geese prepare for the long journey to the north where they will quickly be focused on reproductive activities.





Some of the wetland management activities are geared toward facilitating the production of “good” invertebrates such as midges while discouraging the proliferation of dangerous mosquitoes which can act as vectors in the spread of disease.

The wetlands of the Yolo Wildlife Area were constructed with the involvement of the Sacramento Yolo Mosquito and Vector Control District (SYMVCD). They are designed and managed to minimize mosquito production. In recent years, extensive topography has been built into these wetlands, providing deeper swales, shallow rises, and islands. Not only will these improvements provide a variety of water depths but they will further improve the flooding and draining capabilities of these managed wetlands. The SYMVCD was brought into this project during the design phase to insure that the improved wetlands would not create a health hazard for the people in our area.

Most wetlands on the Wildlife Area are seasonal in nature, being drained around April 1. This encourages the production of Swamp Timothy, a low growing grass species. Draw downs that occur at this time of year also discourage the germination of emergent vegetation such as cattails and bulrush (tules).

Emergent vegetation can slow the movement of flood water through the Yolo Bypass. Since flood control is the primary purpose of the Bypass, it is imperative that the Wildlife not compromise this function. Agreements with the California Reclamation Board detail limitations on the amount of both emergent vegetation and riparian habitat on the Wildlife Area.

Agriculture has always been an important land use in the Yolo Bypass, and the Yolo Wildlife Area utilizes agriculture to manage habitats while providing important income for the management of the Wildlife Area. The many agricultural activities occurring on the Wildlife Area include rice which is grown, harvested and flooded to provide food for thousands of waterfowl.

Geese and cranes commonly forage in harvested corn fields throughout the Pacific Flyway. Working with local farmers, the Wildlife Area provides fields of milo, corn and sudan for this purpose.

Crops such as safflower are cultivated and mowed to provide seed for upland species such as Ring-necked Pheasant and Mourning Dove. Harvested safflower fields are a popular hunting scenario during the dove season.

Much of the southern portion of the Wildlife Area is grazed with cattle, resulting in spectacular blooms of wildflowers during the spring months. The predominance of non native annual grasses in this area can inhibit the production of the native plant community that includes several rare and endangered species. Cattle eat this rye grass, exposing the emerging forbs to sunlight. Historically, Pronghorn Antelope and Tule Elk provided this function. The introduction of Eurasian grasses radically changed the dynamics of this ecosystem. Only the intense grazing pressure of livestock can dampen the proliferation of annual rye grass.



## Existing Facilities

Currently, the Yolo Wildlife Area is administered from the Fish and Game headquarters complex on Chiles Road one mile west of the Yolo Bypass. This complex includes a 3 acre demonstration wetland, a residence, maintenance shop, conference room and office space for employees of both the Yolo Basin Foundation and California Department of Fish and Game.



The Yolo Basin Foundation is headquartered in a trailer behind the Fish and Game office. Two sheds provide space for storage of educational materials and miscellaneous supplies.

Three other residences are located on the Wildlife Area, two of which are situated at the historic Tule Ranch Headquarters. These houses date back to the 1930's and may have some historical significance. The ranch headquarters also has a complex of corrals used to process livestock.

Also found on the Tule Ranch is a large barn thought to have been constructed in the 1930's. This barn could be used as an educational facility for the interpretation of the adjacent vernal pools. The ranch headquarters may also serve as an interpretive facility that will allow students to experience the role agriculture has played in the Yolo Basin.



*Umbrella barn at Tule Ranch*

The third residence is located on the Pacific Flyway Center site and will be retained to be used as a caretaker's residence. This house is currently being remodeled.

On the Wildlife Area a hunter check station is operated during the autumn and winter hunting season. A trailer is transported and placed on site at the south end of the auto tour route. This trailer is removed with the onset of winter flooding.

There are currently eight miles of gravel roads available for public use which lead to nine parking lots that allow access to the hiking trails and hunting sites on the Wildlife Area.



## Existing Programs

Yolo Basin Foundation sponsors a variety of wetlands related educational programs, the most extensive being the *Discover the Flyway* program for schools. *Discover the Flyway* is run in partnership with the State Department of Fish and Game and hosts over 4,000 school children a year at the Demonstration Wetlands and the Wildlife Area. Four days a week during the school year staff and volunteers are seen at both sites with clusters of children learning about the wonders of wetlands.



Marsh Madness, a program sponsored in partnership with California Waterfowl Association (CWA), brings students from disadvantaged schools to the Wildlife Area. Wild about Wetlands classroom kits, originally created by the Foundation, are available for teachers to use. The kits have been replicated by CWA and are available to teachers statewide. Teacher workshops, Nature Bowl, a classroom based competition, Project Wet, and Flyway Nights, an evening lecture series, are also programs sponsored by the Yolo Basin Foundation.

The Foundation also coordinates a volunteer docent program with the City of Davis to provide field trips to the City of Davis Wetlands. The Foundation conducts public field trips to the Wildlife Area for the public on the second Saturday of every month. There are many requests by professional groups and international visitors for field trips. Special tours to see the fly-out of thousands of bats living under the Yolo Causeway are in high demand in the summer. In the spring field trips to see the vernal pools located at the south end of the Wildlife Area are popular.

Yolo Basin Foundation and many community groups founded California Duck Days in 1993. The Foun-

dation serves as the umbrella organization for this successful festival. A long term steering committee puts on the event. The festival started off at the Veterans Memorial Center where over 1000 attended. In 2003, in an effort to trim costs, the festival was moved to the Yolo Wildlife Area Headquarters and currently serves about 500 people. Ducks Days is a very popular community event that has served as the model for many other festivals throughout California.

Bucks for Ducks, the Foundation's annual fundraiser held every October, is a popular community event in Yolo County, with over 350 people attending in 2004. It is the dream of the Foundation to be able to hold it at the Pacific Flyway Center.

Public outreach is an important component of what the Yolo Basin Foundation staff does every day. Press releases are sent to the regional press announcing all field trips, workshops, lectures, and other events. Foundation staff members have a good working relationship with the editor and reporters at the Davis Enterprise and the Sacramento Bee. The Foundation works regularly with Fish and Game staff to promote the Wildlife Area on television and radio stations. "The Yolo Flyway" newsletter is published regularly, and, for faster dissemination, program updates are emailed regularly to a list serve with over 1000 names. A well regarded website is also kept up-to-date with current program information.

As the programs have grown, the number of Yolo Basin Foundation staff has grown from one part-time executive director to a full time executive director position (shared by Robin and Ann Brice), a full time program coordinator, one-half time development director, a one-half time office manager and two half-time environmental educators. One environmental educator position is jointly funded with State Fish and Game.

Volunteers are key to the success of the Foundation's programs. There are about 25 active volunteers who pitch in to help at events. About a dozen work at least two mornings a week as activity leaders for school trips. Expert volunteer field trip leaders are able to introduce people to the joys of watching wildlife. Training workshops are held in the summer to prepare volunteers for the coming school year. Special trips for volunteers are scheduled throughout the year. It is a goal of the Foundation to expand the volunteer base to assist DFG in meeting the operation demands of the future Pacific Flyway Center.

## Relationship to Other Resources in the Region

The Yolo Wildlife Area is part of a complex of wetlands throughout the Sacramento Valley and north that provide important wetland habitat for birds traveling the Pacific Flyway. The Pacific Flyway Center will offer information about other facilities and outdoor learning opportunities throughout the Region. The Flyway Center will be located where Putah Creek historically flowed into the Putah Creek Sinks and will provide access to the one-mile of Putah Creek that is part of the Yolo Wildlife Area.

The 400-acre **City of Davis Wetlands** is immediately north of the Wildlife Area, and Yolo Basin Foundation trains docents to lead tours there for the city.

The **Putah Creek South Fork Preserve**, 85 acres owned by the City of Davis, is located approximately one mile upstream from the Wildlife Area. There is a small system of hiking trails on the Preserve. The **Putah Creek Riparian Reserve**, owned by UC Davis, is located several miles farther upstream. The **UC Davis Raptor Center** is located on the levee on the south side of the Creek within the Preserve. There are several public access points along the Riparian Reserve. It is a popular place to go jogging, hiking and fishing. The City of Davis operates a summer day camp program at the Reserve.

The **UC Davis Arboretum** is located along the old north fork of Putah Creek. Volunteer docents lead tours as part of a school outreach program. Monthly topical tours for the public are also available.

**Putah Creek Council** sponsors an “adopt a reach” program along the Creek. They sponsor creek clean ups and habitat restoration projects for the public throughout the year. The **Center for Land-based Learning** near Winters sponsors school programs for high school students that introduce them to farming, ranching and natural ecosystems and give them an opportunity to participate in habitat restoration projects on private farms along the Putah Creek and adjacent sloughs.

**Lake Solano County Park** is located along the banks of Lake Solano, which was created by the Putah Creek Diversion Dam. The park is open to the public for picnics, boating, fishing, and camping.

The Pacific Flyway Center is located within the Putah – Cache Creek Watershed. **Cache Creek Nature Preserve**, located north of the City of Woodland, is owned by the Cache Creek Conservancy and Yolo County. The Preserve is open to the public several days per month. Cache Creek Conservancy operates several educational programs including school field trips, workshops, and special community events. **Yolo County Parks Department** operates several County Parks in the upper reaches of Cache Creek. Rafting including commercial operations is popular on the creek.

**Sacramento and Colusa National Wildlife Refuges**, located north along Interstate 5, are open to the public throughout the year. **Gray Lodge State Wildlife Area** is located in the Butte Sinks and is a popular hunting and bird watching destination. **Consumnes Preserve** and **Stone Lakes National Wildlife Refuge** are located to the south along I-5. Stone Lakes NWR is open to the public several days per month and is in the process of developing visitor use facilities adjacent to its current headquarters. Consumnes Preserve has a visitor center and system of trails that is open to the public.

The State Department of Fish and Game operates the **Nimbus Fish Hatchery** on the American River just below the Nimbus and Folsom Dams. There is a visitors’ center there and an active program that introduces thousands of students every year about the annual salmon migration up the American River.

The **Sacramento Zoo** has an extensive education program and calendar of special events that emphasize environmental education. The **Effie Yeaw Nature Center**, located on the American River, is owned and operated by Sacramento County and the American River Natural History Association. The Center has permanent and changing exhibits as well as a school field trip program that serves thousands of students every year. The Center also sponsors a program on Maidu culture for schools.

Representatives of various nature centers located along the Sacramento River meet periodically to share information. They are pursuing a network that would tie the various centers together. Representatives from the Sacramento River Watershed Program, **Turtle Bay Museum** in Redding, a small center at Red Bluff, and a new center to be located in Chico participate. The Pacific Flyway Center is considered part of this network.

## Current Visitor Use

The Yolo Wildlife Area is used by people from throughout Northern California. Bird watchers, hunters, students are among the thousands of visitors who journey off the interstate into the Yolo Wetlands.

While most bird watchers who regularly visit the Wildlife Area live within a 50 mile radius, there are dedicated birders who come from the San Francisco Bay Area at least once a year to see the large flocks of migratory ducks and geese. If a rare bird is found and posted on the internet, birders from all over, including out of state, will head to the Wildlife Area. Local people visit to walk, run, or just take a drive.

Hunters travel from throughout Northern California to hunt waterfowl, pheasants and mourning dove. There are hunters who regularly come just for the morning and then go onto to work in downtown Sacramento. Since opening day in 1997, nearly 17,000 hunters have gone through the Yolo hunter check station. Daily hunter use averages about 100 hunters per day.



The *Discover the Flyway* program serves students from a five county area including Sacramento, Yolo, Solano, Placer and El Dorado Counties. Since the 2001/2002 school- year, eighty public schools have



participated in the program. This represents 20 different school districts. Twenty private schools regularly participate as well.

The Sacramento Region is a diverse community. This is reflected in the students that visit the Wildlife Area. For example, one class was composed entirely of Hmong students. There are classes that come with a Russian interpreter. Sixty percent of the eighty schools participating in the *Discover the Flyway* program have a Hispanic population of twenty-five percent or more.

Title I is a federal program that provides special funding to schools based on the number of students that qualify for the free breakfast and lunch program. Title I schools are often in “underserved” neighborhoods. More than half of the schools participating in the *Discover the Flyway* program have some percentage of students served by the Title I program. Seventeen of the eighty schools are considered 100 percent Title I. Twenty of the schools are designated as 30 percent or more Title I.

## *Potential Visitor Use Patterns*

Visitors will be able to experience the Wildlife Area on a variety of levels. These involve the access road to the Flyway Center, the Center itself, the trails on the PFC site, the auto tour routes, and a general exploration of the Wildlife Area from the many public roads and trails.

A visitor with limited time would start their visit with a drive down the access road to the Pacific Flyway Center, observing the farmland and agricultural activity on the way. On the way from the parking lot they will view exhibits and represented habitat along the path to the building. Views from the Pacific Flyway Center building and exhibits within it will be the extent of the exposure of these visitors to the Wildlife Area. They will gain a general appreciation for the dynamics and scope of the Pacific Flyway and a cursory knowledge of the Yolo Wildlife Area.

People with a little more time would gain all of the exposure of the previous group but with an on the ground feel for this particular piece of the Pacific Flyway. They will walk on one of the two loop trails found on the PFC site and experience sights and sounds not possible from a building or along the access road. A scattering of mallard chicks, the rattle of a Belted Kingfisher or the crackling of cottonwood leaves on the trail in autumn will illustrate the increased depth of their experience. They may lose themselves as the trail meanders through a willow patch, only to be led back to civilization by a loose flock of wandering bushtits or the squeal of children from the patio of the building.

Most visitors will also want to drive the auto tour loop at the north end of the Yolo Wildlife Area. They will certainly get an eyeful as they traverse the crest of the levee and enter the Yolo Bypass. The tour route will travel through representative habitat types of the Wildlife Area including seasonal wetlands, permanent wetlands, uplands and agricultural areas. There will be strategically created vistas of these habitat types that best present viewing opportunities of the wildlife while protecting the desired security of the animals themselves. Perhaps a glimpse of a river otter scampering across the road, the yodeling of tundra swans overhead or the muddy imprint of a beaver's tail will highlight their visit. Large flocks of waterfowl and shorebirds will be visible along this route with a variety of backdrops

ranging from the meandering tree line of Putah Creek to the more urban Sacramento skyline or the geometric repeating pillars of the Yolo Causeway. The tour route will go through rice land, with its parallel rows of berms mimicking the natural contours of the land. Depending on the time of year, visitors may learn about the cultivation techniques associated with rice production or perhaps be witness to the spectacle of tens of thousands of waterfowl lifting from a harvested rice field.



Stepping back in our progression, this spectacle is definitely viewable from Interstate 80 itself. In fact the most numerous of our visitors will not have stepped on the Wildlife Area at all. The views of large numbers of waterfowl from Interstate 80 can be stunning with a mosaic of color and form emanating from the chaotic flocks of snow geese, pintail, mallard, gadwall, tundra swans and white-fronted geese. This “in your face” presentation of wildlife may in fact be the greatest impact the Wildlife Area has on the urban residents of northern California. Many people will be drawn to the Wildlife Area from the freeway and will enter from the north. They will drive the auto tour route first and may exit back to the freeway or continue on to the Pacific Flyway Center.

Some visitors will make time to park in one of the many parking lots and walk onto the Wildlife Area. It may be a hundred yards or it may be an all day 10 mile journey. They may be duck hunters walking the familiar pre dawn mile to that favored clump of tules tucked away in the corner of a fabled mallard hole. The hikers may be a group of birders on a field trip chasing a wayward eastern warbler who has been held up in that large willow on the north end of Green’s Lake. They could be a father and his kids, fishing poles in hand trekking to the mouth of Putah Creek to catch a striper who has also journeyed to this place in search of the spawning grounds. These of as they get muddy on their field trip. For some children, this is

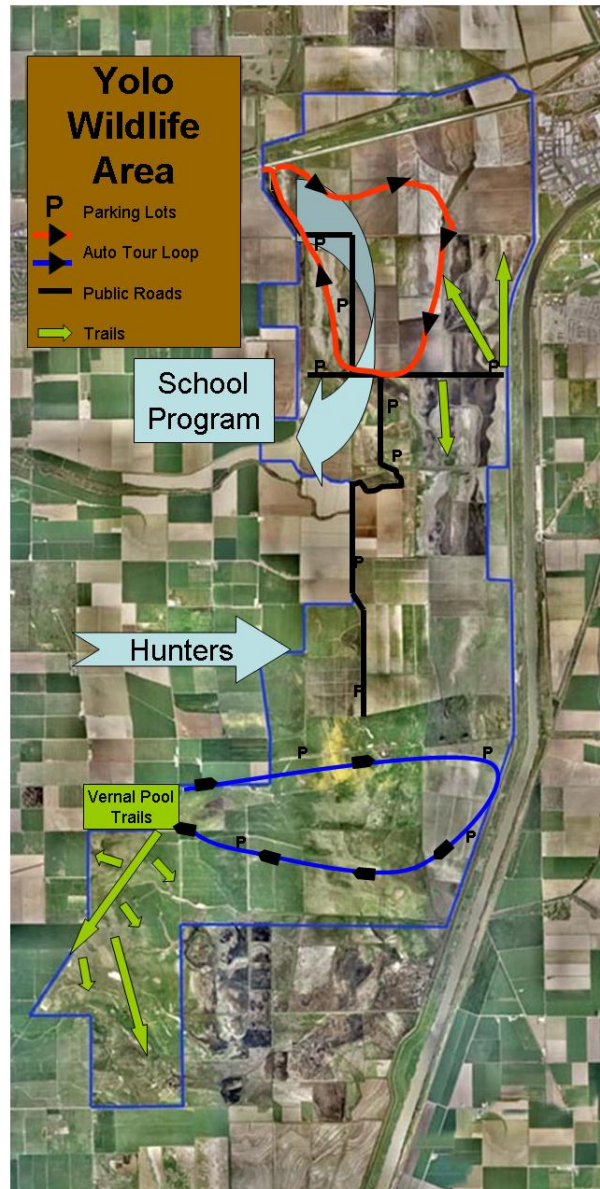
their first opportunity to squeeze mud through their fingers and chase dragonflies.

Far to the south, a road trip through actively managed farm land will lead to another system of trails on the Tule Ranch. In the future a new tour route

will beckon visitors to spend all day in the wilds of the Yolo Basin. No longer will the sights and sounds of the Yolo Causeway be visible or audible. The distant skyline reminds visitors of their proximity to the capitol but they will be surrounded with a vestige of what the Sacramento Valley once was. Expansive fields of tidy tips, gold fields and lupine will enliven the aroma of the Delta breeze as they wander through a system of trails through an incredible landscape of vernal pools and gently meandering topography. The sky will fill with the melodic song of meadowlarks, the buzzing of grasshopper sparrows and the rhythmic whining of an old windmill awaiting a visit from the “Aero Motor” repairman from another decade. Visitors will also appreciate the atmosphere of a working ranch as they sit in the eighty year old umbrella barn learning

about its beautiful surroundings.

The southern tour route will traverse a more primal series of wetlands, representative of the lowest elevations of the Yolo Basin. These “sinks’ have been growing tules forever and to this day are among the last places to drain after a flood. The birds haven’t



forgotten and they flock to these wetlands in tremendous numbers. In this area Putah Creek will end its journey to tidal waters in a reconstructed delta, with the rhythmic surging of water levels in the toe drain slowing and then accelerating its departure. This rare fresh water tidal habitat will fascinate visitors while attracting wildlife such as mink, river otters and black rail.

During flood events, all bets are off. The Wildlife Area closes and all public use ceases. Curiosity is the operative word as locals flock to the levees to observe the flood water's rush through the Yolo Bypass. The Flyway Center will provide a vantage point to view these flows and learn about the intricate landscape scale flood protection system at work.

Whether a spontaneous roadside stop or a planned destination, the Yolo Wildlife Area will attract a wide spectrum of visitors with an array of intentions. They will plan a weekend excursion, stop by because of a posting on the "rare bird alert", attend a child's field trip or be drawn from morning gridlock by a rising white cloud of snow geese, and the Yolo Wildlife Area will not longer be invisible to the people of Northern California. The Pacific Flyway Center will be the keystone to a magnificent array of vistas and experiences that the Wildlife Area has to offer.



## *Pacific Flyway Center*

### **Why the Name “Pacific Flyway Center”?**

Wild birds traveling thousands of miles to winter on the doorstep of Sacramento is an image closely associated with the Yolo Wildlife Area. Winter home to many thousands of migratory waterfowl and shorebirds, the Yolo Basin wetlands are a vital component of the Pacific Flyway. The management of this wildlife area utilizes many of the principal land uses present in the larger Yolo Bypass, including farming, grazing and flood protection. These same land uses make up the texture of the Central Valley portion of the Pacific Flyway.

The Pacific Flyway is the migratory bird highway that is traversed by millions of water birds, song

birds and raptors each year. The Flyway starts in eastern Siberia and the very northern reaches of Alaska and continues south through Canada, Washington, Oregon and California. For some birds, the Sacramento Valley is their southern winter home. For others it is just a way station on a longer route into southern California, Mexico, or the jungles of Central America and the Amazon Basin. Other birds travel to the very tip of the South American continent.

On a map of the Pacific Flyway, the Sacramento Valley looks like it is right in the center. Scaling down further, the proposed interpretive center will be located close to the center of the 10 mile long Yolo Wildlife Area. Thus the name, Pacific Flyway Center, speaks for itself.



## Description

The purpose of this project is to construct the Pacific Flyway Center, a proposed 12,000 square foot educational facility that will serve as the headquarters of the Yolo Wildlife Area, while hosting 5,000 school children a year who will learn about the Pacific Flyway. The Flyway Center will highlight the 16,000-acre Wildlife Area and utilize the management of this area to illustrate the mission of the Department of Fish and Game. The building will contain exhibition spaces, meeting rooms, site observation areas, multipurpose educational facilities and adequate parking. An adjacent restored habitat area is projected to serve as an “outdoor classroom” complimenting the educational function of the Flyway Center building.

Within minutes of downtown Sacramento, the Pacific Flyway Center will serve as a public gateway to the Yolo Bypass Wildlife Area. It will showcase the Department of Fish and Game’s management practices, which demonstrate that flood protection, agriculture and wildlife can successfully coexist.

It will provide scenic vistas of the Capitol city, Mount Diablo, the Coast Range, Sutter Buttes and the Sierra Nevada. During winter storms, people will see the dramatic movement of water as the Yolo Bypass drains the flood waters of the Sacramento River watershed. The diverse surrounding resources include thousands of acres of restored wetlands, riparian habitat along Putah Creek and hundreds of acres of agricultural land.

The Pacific Flyway Center will be owned and managed by the Department of Fish and Game. It will serve as the headquarters for the Department of Fish and Game’s 16,000-acre Yolo Wildlife Area.

The Pacific Flyway Center will be the home of the “Discover the Flyway” program as well as current and future educational programs sponsored by Fish and Game and Yolo Basin Foundation. The education programs will continue to be operated by the



Yolo Basin Foundation in partnership with Fish and Game as detailed in the 1998 Memorandum of Understanding signed by both organizations.

The 69-acre demonstration wetlands site was completed in 2007 (see photo above) and will developed into a mosaic of wildlife habitats found in the Yolo Basin. A system of interpretive trails blinds and other observation areas will present easy access to these habitats. The trail system will extend to Putah Creek.

## *Interpretive Goals*

The Flyway Center will serve the needs of a diverse community with multifaceted interests. The overarching goal of the project is to encourage visitors to explore outside of the building.

Among the interpretive goals are to:

- Welcome visitors and orient them to the Pacific Flyway Center.
- Provide information on the many educational and other public use programs available at the Yolo Wildlife Area.
- Encourage exploration of the Pacific Flyway Center and the Yolo Wildlife Area.
- Interpret the relationship of the Wildlife Area to the overall Pacific Flyway.
- Educate the public on the importance of the coexistence of agriculture, wildlife, fisheries and flood protection.
- Provide experiences for visitors of all ages and abilities and in all seasons of the year.
- Provide visitors with an understanding of the role of the Department of Fish and Game in managing the Yolo Wildlife Area and other wildlife areas statewide.



## *Interpretive Theme and Sub-themes*

### **Unifying Theme:**

## **The Yolo Wildlife Area: A Crossroads of People, Wildlife, Wetlands, Agriculture & Flood Protection**



The following pages present the five sub-themes of the Yolo Wildlife Area. The Pacific Flyway Center will serve to interpret these themes.



### **Sub-theme: Wildlife & Wetlands**

- A key link in the chain of wetlands that make up the Pacific Flyway
- A critical aquatic habitat for native fish adapted to life in a flood plain
- Anadromous fish journeying up Putah Creek
- Important habitat for rare species
- Vernal Pools: a home for unique plants and animals
- Seasonal birds using seasonal wetlands
- Adaptations for survival.
- Wetlands: where land and water meet
- Tangible benefits of wetlands for society
- Introduced species and their impacts
- Putah-Cache Creeks Watershed
- Home to beavers and otters
- Winter spectacle: Thousands of waterfowl
- Summer spectacle: Thousands of bats



### **Sub-theme: Flood Protection**

- Historic role of Yolo Basin accepting overflow from Sacramento River
- Catastrophic impacts of flooding over the years
- Use of natural basins to manage flood flows
- The Yolo Bypass carved from the Yolo Basin
- Yolo Bypass: flood waters gateway to the Delta
- Role of levees
- Stream flow management feeding the Bypass
- The sheer power of winter flood flows rushing through the Bypass
- Flushing effects on water quality
- Urbanization's effects on flood frequencies
- Sacramento River Flood Control Project
- Yolo Bypass—Northern reach of S.F. Bay Delta

### **Sub-theme: Agriculture**

- Reclamation creating farmland from wetland
- Wildlife and farming benefiting from each other
- Invasive plant control through agriculture
- Agriculture as an urban buffer and wildlife corridor
- Importance of agriculture in the Pacific Flyway
- History of agriculture in the Yolo Basin
- Generating revenue on the Wildlife Area
- Water use on agricultural lands
- Learning where our food comes from and where it goes from here
- Wetlands buffet





### **Sub-theme: Management**

- Restoration after reclamation
- Native American's management of habitats
- Integrating agriculture into wildlife management
- Replacing a lost hydrology
- A community supported Wildlife Area.
- Cooperative partnerships.
- Expanding the role of Wildlife Areas
- Working within the floodplain
- Wildlife management with an urban backdrop
- Safely managing a Wildlife Area without mosquito problems.

### **Sub-theme : People**

- Native Americans seasonal use of the Yolo Basin
- Introduction of agriculture.
- Effects of mining today and in the past
- Permanent settlements, a lesson of trial and error
- Commerce (railroads and ships) across the Yolo Basin
- Introduction of non native species
- Market hunting
- Pressures of urban growth
- Impacts of agriculture
- Duck hunting club culture
- Recreation in the Yolo Basin
- Bird watching
- Experiencing the wonders of wetlands
- Learning to coexist







## *Additional Information*

*Discover the Flyway* Program, 2004-2005 School Year

Making Headlines—A History of the Yolo Basin Foundation in Press Headlines

Summary of Agency Participation and Funding Sources for Pacific Flyway Center Planning Effort 1996-2005

Summary of Community Outreach and Participation in Developing the Vision for the Pacific Flyway Center

# *Discover the Flyway Program*

## 2004-2005 School Year

by Teri Engbring, Education Associate

Currently, classes arrive by bus or car and their first stop is an open space in the Demonstration Wetlands where they sit down on tarps on the ground for a 10 to 15 minute introduction. Briefly what we cover in this interactive opening discussion is:

- a. What are wetlands? Both seasonal and permanent, various names (marsh, bog, pond), and basic components (water, clay soil, flora and fauna adapted to this ecosystem)
- b. Why are wetlands important? Including flood control, recreation (birding, hiking, hunting & fishing), agriculture/food production, wildlife habitat (for nursery, resident and migratory species along the Pacific Flyway), ground water recharge and filtration, pollution control (ground, air and water), and education/research
- c. What is habitat? Home for animals and plants, each with some form of 4 components (water, food, shelter and space) and 4 key types in Yolo Bypass: 1) permanent wetlands, 2) seasonal wetlands, 3) grasslands and 4) riparian areas. Also who live in various habitats, i.e., mice in grasslands, raccoons and raptors in riparian areas, and ducks or aquatic invertebrates in permanent and seasonal wetlands.
- d. What activities we will do in the stations today and how we will rotate every 20 minutes so everyone gets to do all the activities, where restrooms and drinking water are located, safety rules, & thanks to volunteers, teachers and chaperones.

Next, we divide the group and disperse for the 3 to 4 **learning activities**, (generally takes 1.5 to 2 hours). Here are brief summaries of some of the more popular learning activities we offer teachers:

- a. A very interactive, hands-on, in-the-water Wetland Pond study of aquatic invertebrates and their place in the wetland ecosystem, where all components are interdependent, including people and bugs that act as our warning system.
- b. Wetland Plant Identification – Requires a sample of at least 10 key native, wetland plants where students are given laminated guides and learn about the history, uses and interesting properties of several common wetland plants (i.e., tule cattail, willow, cottonwood, wild rose, mule fat, valley oak, sedge, coyote bush, elderberry, toyon, alder and grasses such as deergrass, blue wild rye, creeping wild rye, slender wheatgrass, purple needle grass, or meadow barley).

There is also an adaptation of this activity for students in grades kindergarten to second grade called Leaf Identification. Students sit at a table and do observation with hand magnets, leaf rubbings and measurements of several different leaf samples.

- c. The Great Percolation Race is another very interactive activity where we demonstrate the unique qualities of wetland soil (clay) and compare it to other soils (potting or loamy soil and sand) in terms of water percolation rates, color, particle size, and plant nutrition. It involves a scientific experiment and requires an open space of at least 20 feet square for all components of the activity.
- d. The Un-nature Trail is a fun game where students walk a 20 foot long trail that has been set with 10-16 items that do not belong in the Yolo Basin ecosystem (i.e, a banana peel, a rubber spider, a wooden fish, a soda can or plastic water bottle). They have a pencil and paper on a clipboard where they can record by word or picture what they find that does not belong. At the end, we discuss what they found and review a chart of several items of “garbage” that people may leave in the wildlife area and how long it takes for those things to decompose, i.e. 80 years for aluminum cans, 2 years for a banana peel, five years for a cigarette butt, and indefinitely for plastic bottles. This is a great chance to talk about what every child and adult can do to help the wetlands by not littering, recycling and reusing garbage. This very adaptable activity can be done pretty much anywhere.
- e. Animal Tracks and Scat is a popular activity that helps prepare students for their guided walk in the wetlands. We introduce them to ways you can identify wetland residents without necessarily seeing them (by their sounds, and what they leave behind: nests, tracks, scat, bones, feathers, pellets, slides, chewed trees, etc.) Then we show them realistic rubber reproductions of bird and mammal feet from mallard to coyote, and talk about how their feet show how these animals have adapted to life in the wetlands. Then we let them make impressions with the molds to see what the tracks look like in silt or sand.
- f. Salmon Senses is another very interactive activity that requires a flat, cleared space or mowed grassy area to lay out a game that guides students via signs on stakes from the Pacific Ocean to spawning beds in their home streams on Putah Creek, the Sacramento and American Rivers. A cleared space of at least 20 feet wide and 50 feet long is needed for this activity where they will learn about salmon life cycles and then participate in an experiment where they literally follow their noses like the salmon to find their home stream.
- g. Owl Pellet Dissection is a popular activity that must be done under cover and preferably indoors so the owl pellets, guide sheets and delicate materials don't blow away. If we had a regular indoor classroom/lab, we could also set up microscopes for closer viewing of the pellet components, which is not possible now.

- h. Other activities such as “What Can I Eat With this Beak” would be best done in an indoor or covered setting, but can be done outside if weather holds. Students view pictures (mounts could be used if we had an inside lab) of various sizes and shapes of beaks and then experiment with beak-like tools (tweezers, spoons, clothespins) to see how and what they can eat.
- i. Activities such as Create-A-Map are less frequently requested, and can be set up anywhere in the outdoor classroom area with markers or rope lines set up around 10 foot square areas with a diversity of plants that students will identify and map out.

After we complete the learning activity stations, most classes have a snack or lunch (where table seating would be helpful), and use restrooms before going form their guided walk in the Wildlife Area.



## Making Headlines

The story of the Yolo Wildlife Area and the Yolo Basin Foundation has been covered extensively in the press. It is a story about successful partnerships, a thriving wetlands, and children discovering wetlands. The Foundation's press binders contain over 300 articles. The headlines give a concise summary of the history of the Yolo Wildlife Area and the adventures of the Yolo Basin Foundation.

- 1990 “Backers have big dreams for wildlife refuge” (Davis Enterprise)
- 1992 “Migrating birds to get Yolo refuge” (Sacramento Bee)
- 1993 “Yolo finds that cooperation aids environment” (Sacramento Bee)
- 1994 “Wetland refuge benefits county” (Daily Democrat)
- 1995 “Flocking together for wildlife” (Bee)
- 1995 “Refuge in a flood channel” (Bee)
- 1995 “A quality of imaginations elevates Yolo (West Sacramento Press)
- 1996 “Front row at the flyway” (Sunset Magazine)
- 1996 “Yolo: From dream to reality” (Wetland Link International News)
- 1997 “Locals told Clinton will be here” (Davis Enterprise)
- 1997 “Wetlands Victory” (Los Angeles Times)
- 1998 “Diverse partnerships work to produce united results” (Business Forum, Bee)
- 1999 “Students swamped with wetlands knowledge” (Fairfield Reporter)
- 2000 “Looking for something to do in the great outdoors?” (SF Chronicle)
- 2001 “A roomier Yolo refuge takes flights” (Sacramento Bee)
- 2003 “Yolo Bypass Wetlands getting a huge boost...”CWA awarded \$1 million to support restoration on new lands.” (Western Outdoor News)
- 2004 “Fauna, farming coalesce at Yolo Wildlife Area (Davis Enterprise)
- 2004 “Rice farmer talks about nature” (Davis Enterprise)
- 2005 “Locals go batty over Wildlife Area tours” (Davis Enterprise)

**Summary of Agency Participation and Funding Sources  
for Pacific Flyway Center Planning Effort  
1996 – 2005**

<b>Government Organizations</b>	<b>Government Organizations</b>
Department of Fish and Game	Lead state Agency for project; owner and operation of Pacific Flyway Center
Wildlife Conservation Board	Purchase of Project Site; funding of interagency agreement with State Parks; funding of architecture and engineering team; construction
CBDA 2004	\$334,000 Planning Grant
Army Corps of Engineers 1998-2004	206 Restoration Planning (ended in 2004) \$800,000 as of 4/04
Bureau of Reclamation 1999	\$50,000 Planning Funds
State Reclamation Board	Project guidance
Yolo County	PFC Advisory Committee
Fish & Wildlife Service	PFC Advisory Committee
City of Davis	PFC Advisory Committee
State Parks 2005	Interagency Agreement with WCB for project management services

<b>Private Conservation Organizations</b>	<b>Type of Participation</b>
Yolo Basin Foundation	Project initiation (1989) and coordination. \$70,000 in staff time. Constituency building; Project coordination for planning and construction phases; will provide programs & volunteers for Center
Yolo Audubon Society	PFC Advisory Committee
Central Valley Habitat Joint Venture 1998	\$2,500 Grant Funds
Calif. Waterfowl Association	PFC Advisory Committee
Ducks Unlimited	PFC Advisory Committee

<b>Private Contributions</b>	<b>Donation Amount</b>
Packard Foundation 2000-2001	\$165,000 Project Development
Great Valley Center 1998	\$10,000 Project Development
Long Foundations 1998	\$20,000 Project Development
Novo Nordisk Biotech 1999	\$100,000 Due Diligence Study and Capacity Building

## **Summary of Community Outreach and Participation in Developing the Vision for the Pacific Flyway Center**

### **Jan. 1999- current Pacific Flyway Center Committee**

This is a committee of the Yolo Basin Foundation board of directors. The chair is a board member, members of various interest groups and agencies are invited to attend. The committee meets monthly. Participants include staff from DFG, WCB, UC Davis, City of Davis, Office of Congressman Mike Thompson, Office of Assemblywoman Lois Wolk, and office of Yolo County Supervisor Mariko Yamada.

### **October 2004 Presentation to City of Davis Open Space Commission**

DFG and YBF staff made a presentation to this commission. It is composed of citizens of Davis that have been appointed by the City Council. The commission makes advisory recommendations to the Council. The commission voted to support the Flyway Center project at that meeting.

### **1998-2004 Presentations to Yolo County Board of Supervisors**

YBF and DFG staff have made various presentations to the Board of Supervisors keeping them up to date on the status of the PFC project.

### **November 2003**

YBF and DFG staff presentation to California Audubon board of directors regarding the PFC planning effort.

### **2001 Design charrette**

This was sponsored by YBF and The Dangermond Group for the benefit of US Army Corps of Engineers staff involved in the Section 206 Habitat Restoration Project.

### **Jan. 1997-1998 Visitor Center Advisory Committee**

This group was an ad hoc group of people from many interest groups, that met monthly to brainstorm on ideas for a visitor's center

### **1997 Design charrette facilitated by UC Davis Landscape Architecture Department**

This was a one day meeting to discuss design ideas with UC Davis students, and Landscape Architecture professors, Yolo Basin Foundation staff and board members, elected officials, agency representatives including Fish and Game, Central Valley Habitat Joint Venture, US Fish and Wildlife Service, Yolo Audubon Society, and others.

### **1994-1996 Visitor Center Committee**

This was a committee of YBF board members who met to strategize on the best way to approach funding and planning for a visitors' center. A programming subcommittee met during 2004 to discuss interpretive goals and themes.





**A Pleasant Surprise in the Foundation  
E-mail Inbox...**

**From:** Chris Kline  
**Date:** Fri, 10 Dec 2004 09:44:40  
**To:** Yolo Basin Foundation  
<flyway@yolobasin.org>  
**Subject:** RE: Yolo Wildlife Area Gives a Lift

Just wanted to say...  
Last Thanksgiving Holiday weekend I drove up to Reno from Sonoma. It took 6.5 hours to get there, got snowed in so didn't get to do what I went for and then on the ride home it took 2 hours just to get up to the summit. Another 2 hours down to Sac. The highlight of all that driving was when I was crossing the causeway. Do you know that feeling? You're exhausted, irritated, tons of traffic, feeling low and then you see HUNDREDS OF WATERFOWL! Flocks and flocks of ducks, geese flying. The basin's traffic of waterfowl washed away all the anxiety. I honestly felt my eyes tear up, and I said to them "Thank you". They changed my mood instantly and made the rest of the drive home better.

