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Sacramento Valley

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[Sacramento Valley](#) ^[1]

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Site Facts:

Site Facts

Country, State, Province/Region:

United States of America, California

Relative Location:

Yolo, Sutter, Colusa, Placer, Yuba, Butte, Glenn and Tehama Counties

Latitude/Longitude:

-122.00109°W, 39.24989°N

Category:

International

Basis for Designation:

Supports more than 100,000 shorebirds annually

Size:

Rice (544,754 acres) and Wetlands (72,387 acres)

Joined:

Spring 2003

Site Owner/Steward:

U.S. Fish and Wildlife Service
California Department of Fish and Game

Private landowners

Site Partners:

Yolo Basin Foundation
Sacramento Zoo
Sacramento County
Central Valley Joint Venture
Audubon California
California Duck Days

Contact:

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About Us

The Sacramento Valley is located in the northern portion of California's Central Valley, and is bordered by the Sierra Nevada Range to the east and the Coast Range to the west. The Valley floor is flat with a gentle slope to the southeast towards the Sacramento River. The Sacramento River flows through the center of the Valley, from north to south, until it meets with the San Joaquin River in the Delta and then heads west into the Pacific Ocean.

The wetlands of the Sacramento Valley are best known for their importance to waterfowl. They have historically provided a winter haven for ducks, geese, and swans. Waterfowl migrate to the Valley by the millions from as far away as the Arctic regions of Alaska, Canada, and Siberia. Next to waterfowl, shorebirds are the most abundant aquatic birds using Valley wetlands, with peak populations ranging from 134,000 in early fall to 335,000 in spring (Shuford et al. 1998).

With the development of agriculture in the mid-nineteenth century, the vast seasonal wetlands and grasslands that once existed in the Valley were replaced by rice and other crops. Levees were constructed to confine the rivers for irrigation and flood control, preventing the natural flooding of wetlands. More than 90 percent of California's historic wetlands have disappeared, leaving the remaining 10 percent under the management of private waterfowl hunting clubs, State Wildlife Management Areas, and federal National Wildlife Refuges.

Despite these changes, birds continue to fly their ancient migration routes. The wetlands that remain are intensively managed and, along with many thousands of acres of harvested rice, are intentionally flooded during the fall, winter, and early spring to provide habitat and/or encourage decomposition of rice straw. Today the Valley is an

extensive agricultural area that still maintains its status as a key wintering area for waterfowl, as well as important habitat for resident and migratory shorebirds, raptors, songbirds, and many other species.

Conservation:

Ecology & Conservation

Habitat and Management ^[4]

Wildlife

[5] Protection

[6] Current Threats

[7] Major Causes of Disturbance

[8] Research and Management Activities ^[9]

Habitat and Management:

Lands under USFWS and CDFG ownership in the Sacramento Valley are composed of a variety of habitat types including seasonal wetland (50%), semi-permanent and permanent wetland (5-10%), vernal pool/alkali meadow (5%), grassland (10%), and riparian (25%).

Seasonal wetlands are managed to mimic the historic winter flooding of the Valley. Through a complex network of ditches and levees, they are flooded throughout the fall and winter and are slowly drained in the spring, allowing them to dry out over the summer and encourage plant growth on the moist, exposed soil. Re-flooding in the fall makes seeds and plants available for wildlife. These wetlands are extremely productive as both plant and invertebrate food sources. Semi-permanent wetlands are under similar management, but remain flooded until mid-summer before being drained. Permanent wetlands remain flooded year-round, and are the least productive, but provide important habitat for resident species during the dry and hot summer months. The wetlands of the Sacramento Valley are intensively managed and require the use of many techniques aside from water management including mowing, disking, burning, grazing, and spraying. The result is a network of wetlands with a variety of water depths, food types, and cover. The shallow ponds with exposed mudflat teem with shorebirds during fall and spring migration.

Vernal pool/alkali meadow habitats are generally composed of alkali grasslands intermixed with vernal pools. Generally unmanaged, the low spots in these areas fill with rainwater, and are shallow and highly productive for invertebrates. This makes these areas a particular favorite of shorebirds as well as dabbling ducks.

Although most of the Sacramento Valley's historic wetlands have been converted to agriculture, certain types of agriculture – chiefly rice cultivation – help to sustain

wetland-dependent species by creating a habitat type that provides breeding and wintering habitat for waterfowl, shorebirds, wading birds, and other wildlife. Each year, hundreds of thousands of acres are planted in rice. These fields are flooded during the summer growing season, and as a result of straw burning legislation, many fields are re-flooded following fall harvest in an effort to decompose rice straw (Brouder and Hill 1995). The waste grain that remains in the fields after harvest provides an invaluable food source for the wintering waterfowl population. During winter storms, dry fields will flood and drain periodically, providing shorebirds with shallow habitat and access to invertebrate food sources.

Wildlife:

The wetlands and rice fields of the Sacramento Valley are of particular importance to nearly a dozen shorebird species, including: killdeer (*Charadrius vociferous*), black-necked stilt (*Himantopus mexicanus*), American avocet (*Recurvirostra Americana*), greater yellowlegs (*Tringa melanoleuca*), western sandpiper (*Calidris mauri*), least sandpiper (*Calidris minutilla*), dunlin (*Calidris alpina*), long-billed dowitcher (*limnodromus scolopaceus*), Wilson's snipe (*Gallinago gallinago*), long-billed curlew (*Numenius americanus*), and whimbrel (*Numenius paheopus*). Three of these species are year-round residents of the Valley, all having modest breeding populations that increase with the arrival of wintering migrants. The killdeer, American avocet, and black-necked stilt nest throughout the Valley. The remaining eight species can be found using Valley habitats throughout the fall, winter and spring, with populations peaking during early fall (August) and mid spring (April). Other shorebird migrants include semipalmated plover (*Charadrius semipalmatus*), red-necked phalarope (*Phalaropus lobatus*), Wilson's phalarope (*Steganopus tricolor*), and black-bellied plover (*Pluvialis squatarola*). These species can be found in small numbers throughout the Valley on a regular basis during migration periods.

The Valley holds significant numbers of wintering northern pintail, American wigeon, northern shoveler, green-winged teal, gadwall, mallard, white-fronted goose, snow goose, and Ross' goose. The most common breeding species are mallard, cinnamon teal, gadwall, and wood duck.

These plentiful shorebird and waterfowl concentrations attract raptors, especially northern harrier, peregrine falcon, and bald eagle. Also commonly seen are white-tailed kite, red-tailed hawk, American kestrel, red-shouldered hawk, turkey vulture, great-horned owl, and barn owl.

Many other bird species benefit from the wetlands and rice fields of the Valley, including great blue heron, great egret, snowy egret, black-crowned night heron, American bittern, American white pelican, sandhill crane, white-faced ibis, American coot, common moorhen, Virginia rail, sora, pied-billed grebe, double-crested cormorant, black tern, and red-winged/tricolor/yellow-headed blackbird. In addition to its avian inhabitants, the Valley is host to many reptile, amphibian, fish, mammalian and

invertebrate species, such as giant garter snake, western pond turtle, otter, beaver, deer, and coyote.

Protection:

Currently there are nearly 150,000 acres of protected habitat in the Sacramento Valley. Of these, approximately 75,000 are owned by the US Fish and Wildlife Service or the California Department of Fish and Game. The majority of the remaining protected acres are privately owned and under conservation easement with state, federal, or non-profit agencies.

Current Threats:

Water availability and quality, urban expansion, changing crop conversion and agricultural practices, contaminants (e.g., pesticides in agricultural lands, sewage ponds).

Southern Sutter and northern Sacramento counties are zoned for urban development. A predicted 18 million people will move into Central Valley in the next 40 years.

Major Causes of Disturbance:

Intensive agriculture and aircraft. However, these sources of disturbance likely do not have a population level effect.

Research and Management Activities:

Priority management issues and research needs for shorebirds in the Central Valley are outlined in the [Southern Pacific Shorebird Conservation Plan](#) ^[10] A few are included below.

Management issues:

- Water level and vegetation management strategies beneficial to migrating and breeding shorebirds need to be promoted and implemented on a broad scale.
- Wetlands and flooded agriculture need reliable water supplies.

Research priorities:

- Energetic requirements
- Patterns of use and movement
- Status and trend of high priority species and breeders
- Value of waterfowl brood pond management to breeding shorebirds

Photo Gallery:

Photo Gallery

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[11]

Long-billed Curlew in seasonal wetlands. Photo by Steve Emmons.



[12]

Killdeer and chick. Photo by Mike Peters.



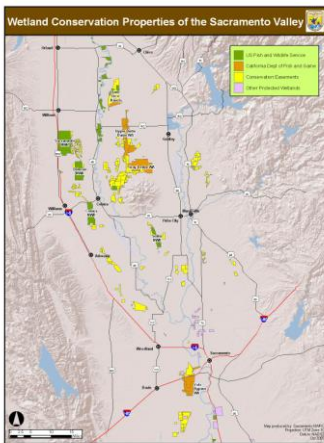
[13]

Dowitchers and Black-necked Stilt. Photo by Mike Peters.



[14]

Western Sandpipers on mudflat. Photo by Mike Peters.



[15]

Wetlands Conservation Areas



[16]

Great Blue Heron resting near a rice field. Photo by Gary Kramer.



[17]

Great Blue Heron resting near rice field, in front of rice storage and processing facility. Photo by Gary Kramer.



[18]

A large group of waterbirds, mostly ducks and geese, using a rice field in front of a rice storage and processing facility. Photo by Gary Kramer.



[19]

A common method of managing rice straw called "rolling" or "stomping" in which the straw is mixed in with water and soil. As shown, the response by several species of birds is significant. Photo by Gary Kramer.

PDF: Advertisement regarding agricultural habitat value ^[20]

Contact:

Contact

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Site Partners

The community in the Sacramento Valley is largely rural with an increasing urban component. The rice growers and waterfowl community, in particular, are informed about the wildlife value of wetlands and agriculture.

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Additional Resources:

Additional Resources

Priority management issues and research needs for shorebirds in the Central Valley are outlined in the [Southern Pacific Shorebird Conservation Plan](#) ^[10].

Bibliography:

Selected references included. Additional references are available for waterfowl and other bird use of the area.

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Day, J.H. and M.A. Colwell. 1998. Waterbird communities in rice fields subjected to different post-harvest treatments. *Colonial Waterbirds*, 21: 185-197.

Elphick, C.S. 1998. Influence of landscape features on waterbird densities in California rice fields. Ph.D. dissertation, University of Nevada, Reno.

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Page, G.W. and R.E. Gill. 1994. Shorebirds in western North America: late 1800s to late 1900s. *Studies in Avian Biology*, 15: 147-160.

Shuford, W.D., G.W. Page and J.E. Kjelson. 1998. Patterns and dynamics of shorebird use of California's Central Valley. *Condor*, 100: 227-244.

Links from this page:

[1] <http://www.whsrn.org/headerphoto/sacramento-valley>

[2] <http://www.whsrn.org/mapimage/sacramento-valley>

[3] mailto:mike_wolder@fws.gov

[4] <http://www.whsrn.org/site-profile/sacramento-valley#Habitat>

[5] <http://www.whsrn.org/site-profile/sacramento-valley#Wildlife>

[6] <http://www.whsrn.org/site-profile/sacramento-valley#Protection>

[7] <http://www.whsrn.org/site-profile/sacramento-valley#Current>

[8] <http://www.whsrn.org/site-profile/sacramento-valley#Major>

[9] <http://www.whsrn.org/site-profile/sacramento-valley#Research>

[10]

<http://www.fws.gov/shorebirdplan/RegionalShorebird/downloads/SoPacificRev04.pdf>

[11]

<http://www.whsrn.org/sites/default/files/images/LongBilledCurlewInSeasonalWetlandBySteveEmmons.jpg>

[12] <http://www.whsrn.org/sites/default/files/images/KilldeerAndChickByMikePeters.jpg>

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[16] <http://www.whsrn.org/sites/default/files/images/blueheron.jpg>

- [17] <http://www.whsrn.org/sites/default/files/images/blueheron2.jpg>
- [18] <http://www.whsrn.org/sites/default/files/images/mixedbirds.jpg>
- [19] <http://www.whsrn.org/sites/default/files/images/mixedbirds2.jpg>
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