

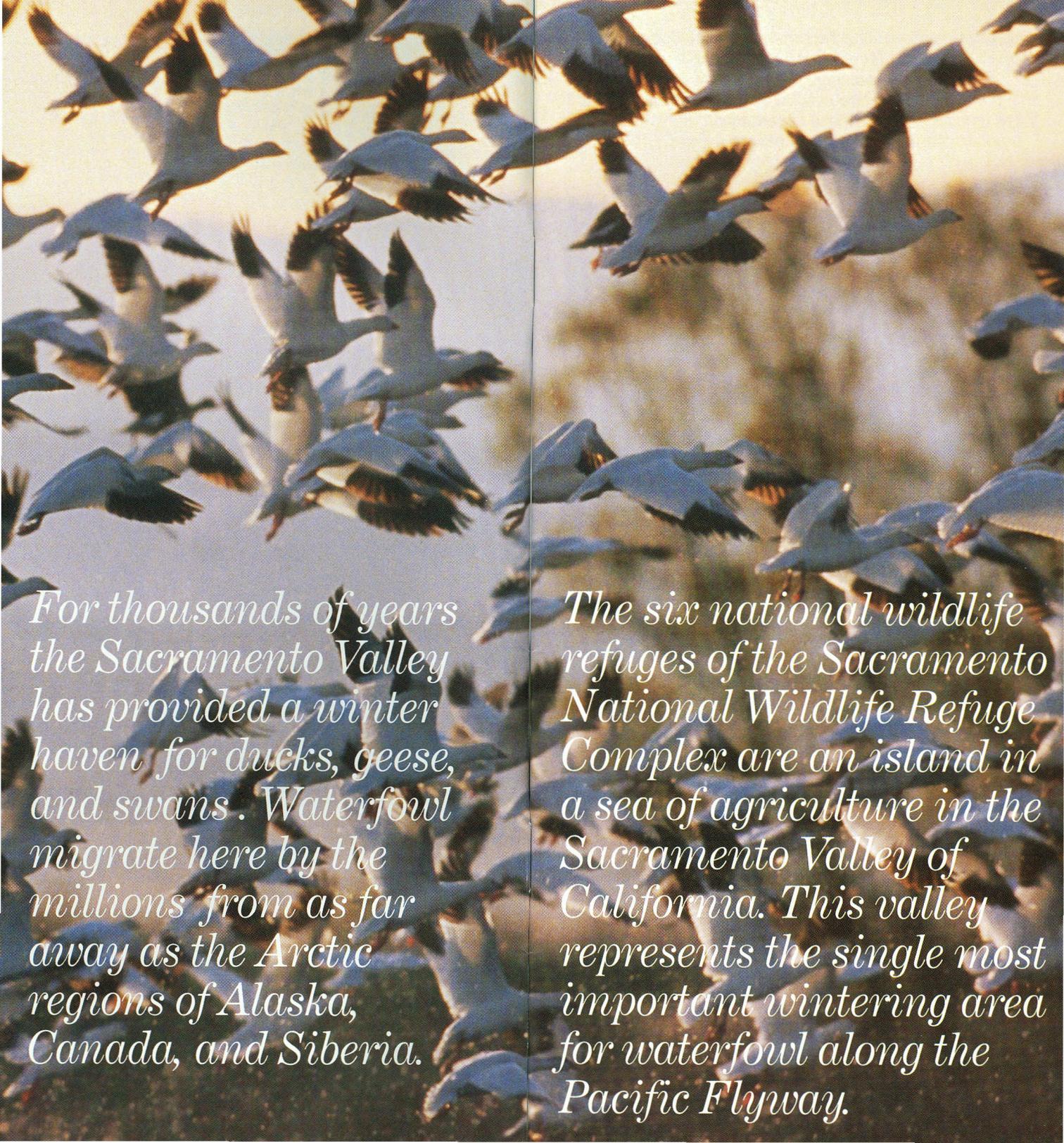
U.S. Fish & Wildlife Service

Sacramento

*National Wildlife
Refuge Complex*

*Sacramento / Delevan /
Colusa / Sutter / Butte Sink /
Sacramento River*





For thousands of years the Sacramento Valley has provided a winter haven for ducks, geese, and swans. Waterfowl migrate here by the millions from as far away as the Arctic regions of Alaska, Canada, and Siberia.

The six national wildlife refuges of the Sacramento National Wildlife Refuge Complex are an island in a sea of agriculture in the Sacramento Valley of California. This valley represents the single most important wintering area for waterfowl along the Pacific Flyway.

Vast Wetlands and Grasslands Once Existed Here

The Sacramento NWR Complex represents a small portion of the vast seasonal wetlands and grasslands that once existed in the Sacramento Valley. Millions of waterfowl migrated down the Pacific Flyway to winter in the valley among resident waterbirds, deer, elk, pronghorn, and grizzly bear.

Snow geese



The Refuge's lands provide habitat for some of the most spectacular concentrations of waterfowl on the continent.

With the development of agriculture, in the late 1800's and early 1900's, natural habitat was replaced with rice and other crops. Waterfowl substituted these farm crops for their original wetland foods causing serious losses for farmers.

Today, 95% of California's wetlands are gone, along with the pronghorn and grizzly bear. New wetlands can not be created naturally since levees have been constructed to confine the river for irrigation and flood control. However, the birds continue to fly their ancient routes along the Pacific Flyway, crowding into the remaining wintering habitat. The Refuges provide a significant amount of the wintering habitat for waterfowl in the Sacramento Valley.

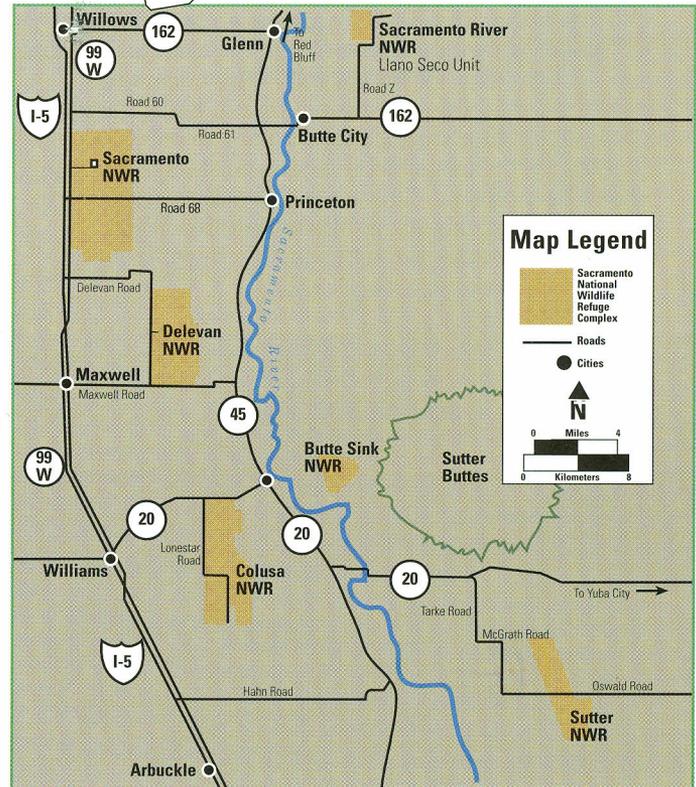
Create it and Wildlife Will Come!

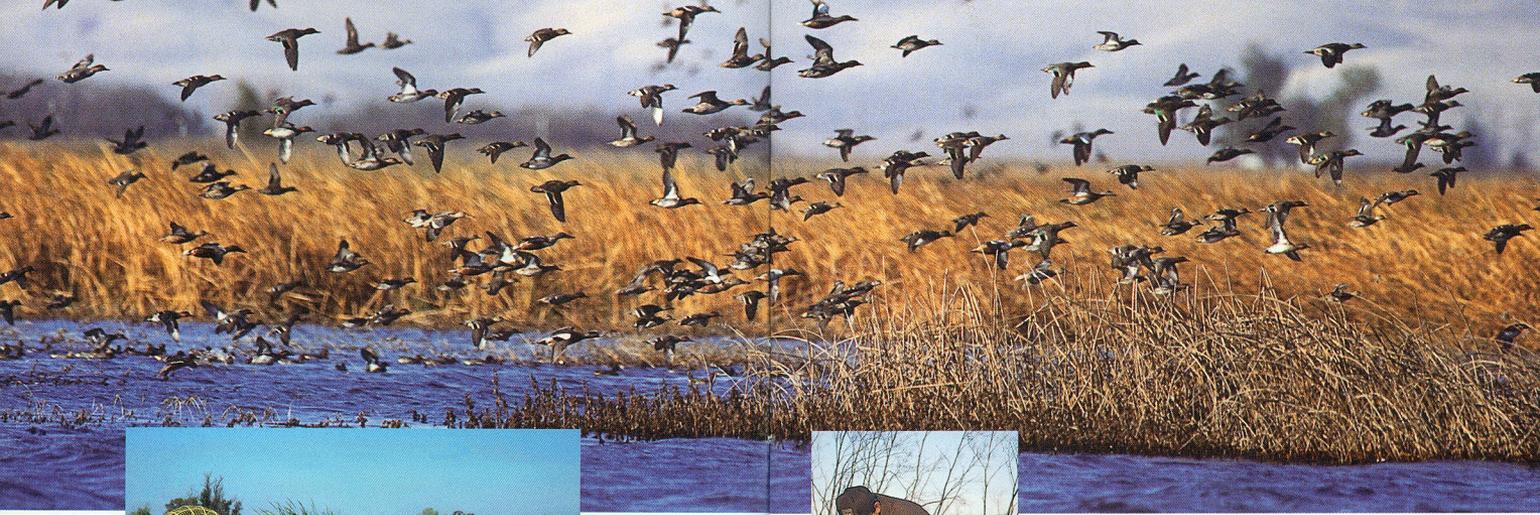


Marsh construction

The six Refuges of the Complex are almost entirely manmade. In 1937 with the establishment of Sacramento National Wildlife Refuge (NWR), managers and biologists worked to transform the Refuge's dry, alkaline lands into productive marshes. The Civilian Conservation Corp, using bulldozers and tractors, began creating marshes and ponds.

Additional Refuges were created in the 1950's through the 1980's, forming the Sacramento NWR Complex. Five Refuges were created to provide wintering habitat for waterfowl and reduce crop damage. These Refuges—Sacramento, Delevan, Colusa, Sutter, and Butte Sink—consist of wetlands, grasslands, and riparian habitat. The sixth, Sacramento River NWR, was established in 1989 to protect and restore the Rivers' riparian habitat along portions of the Sacramento River from Red Bluff to Princeton.





Mixed flock of ducks.

Airboat

Managing Refuge Lands

Managers, biologists and Refuge workers maintain more than 32,000 acres of wetlands and uplands on the Complex. Irrigators mimic the Sacramento River's historic flood cycle. They drain the Refuges' seasonal marsh lands during late spring and summer to encourage plant growth on the moist exposed soil. Reflooding in the fall makes seeds and plants available for wildlife. Water management is used with controlled

Scraping

Controlled burn



Over 1,500 water control structures are maintained on the Complex.

burns and scraping to create wetlands. Meeting the needs of wildlife requires special continuous habitat management. Permanent ponds may be drained every three to five years and the vegetation burned. This keeps them from being choked with plant life and deepens pond bottoms. Watergrass habitats are irrigated to bring seedheads to maturity while uplands are periodically burned to return nutrients to the soil.

Monitoring and Research

Neck banded lesser snow geese are monitored with spotting scopes to determine population numbers and migration routes.

Bird and plant monitoring and other research activities provide valuable data that helps Refuge staff refine habitat management. Bird diseases include avian cholera, botulism and lead poisoning. These diseases cannot be passed to humans. Dying birds are monitored and dead birds removed with airboats to stop the disease cycle.



Habitats Critical to Wildlife, Each Has a Role

Many habitats are needed on the Refuges to provide the food, water, and cover critical for wildlife.



Pintails

Seasonal Marshes are one of the most abundant habitats. They provide more food for wildlife during fall and winter than any other habitat. Common marsh plants include cattail, roundstem bulrush, alkali bulrush, swamp timothy, and smartweed.



Cackling geese

Uplands become carpets of green sprouts after seasonal rains. Annual grasses provide food for geese and wigeon. In early spring, vernal pools teem with aquatic creatures. Goldfields, downingia, and popcorn flowers bloom brilliantly after these pools evaporate in late spring.

Watergrass



Mallard with ducklings

Permanent Ponds are valuable year round for resident wildlife, especially during summer when most of the seasonal marshes are dried up. Characteristic plants include cattail, roundstem bulrush, and sago pondweed.

Riparian Habitat



Riparian areas are thick with plants, trees, and hiding places. This scarce waterside habitat supports the greatest diversity of wildlife. Cottonwoods, valley oaks, sycamores, willows, box elders, elderberry, and wild rose are common plants along the rivers, creeks, and waterways, offering fish and aquatic animals cooling shade.



Wood duck

Watergrass is an important food source during the early fall and winter. Smartweed, sprangletop, bermuda grass, and joint grass are usually mixed in with watergrass and also used by wildlife.

Sacramento Valley Wildlife

More than 300 species of birds and mammals, both resident and migratory, use the Refuges. The marshes support fish, frogs, and invertebrates, which are used by grebes, white pelicans, egrets, herons, and bitterns as a food resource. Shorebirds probe the mud for insects, snails, and worms, while raptors prey on the abundant waterfowl, rodents and small birds. Woodpeckers, marsh wrens, and the finches are a few of the many song birds which feed and nest in the Refuges' cottonwoods, willows, and wetland plants.

Red-shouldered hawk



Snow geese

Approximately 30% of the Pacific Flyway's waterfowl population winters in the Sacramento Valley. Three million ducks and three-quarters of a million geese migrate here.

The western pond turtle, common king snake and western fence lizard can sometimes be seen sunning themselves on logs and rocks by waterways and ponds.

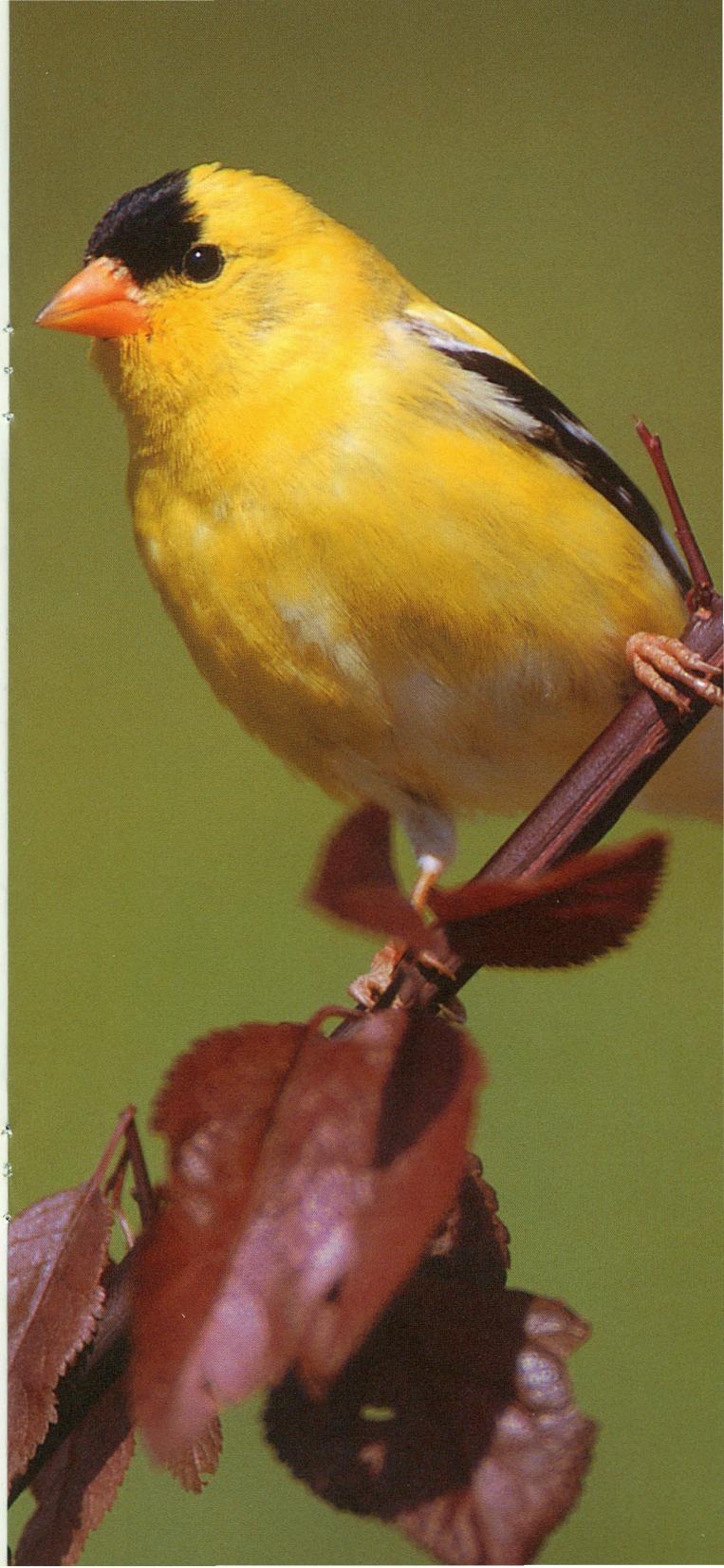
Coyotes, black-tailed deer, and jackrabbits inhabit the uplands and the margins of wetlands.

Coyote



*Western
pond turtle*

*Right:
American
goldfinch*



**Where's the
Wildlife?
Changes with
the Seasons**

Each season brings a new look to the Refuges with a variety of wildlife. Although the peak waterfowl season is October through February, the best viewing months are November and December. The seasons mark an endless cycle of growing plants and

migrating wildlife which can be observed and enjoyed year-round.

There is a fine line between viewing and disturbing wildlife. Do not approach wildlife ; instead use binoculars to view them up close, and remain quiet.

Fall (Sept-Nov)
Pintails are the first ducks to arrive and signal the beginning of winter migration. White-fronted geese and snow geese follow soon.



Pintail Ducks

Summer (June-Aug)
Heron, egrets, grebes, and some ducks remain to nest. Orioles, swallows, and flycatchers arrive. Resident deer, jackrabbits, otter, and muskrat can be observed.



Red-winged blackbird



Snow geese

Winter (Dec-Feb)
Duck and geese numbers peak, Snow and Ross' geese, mallard, wigeon, teal, bufflehead, ruddy duck, northern shoveler and ring-necked ducks enjoy the flooded marsh.



Avocets and Marbled Godwits

Spring (March-May)
As ducks and geese leave for their breeding grounds, shorebirds arrive. Sandpipers, dowitchers, dunlin, avocet, black-necked stilt and others probe the mudflats for food.



ENJOY THE REFUGES!

**Endangered
Means There is
Still Time**

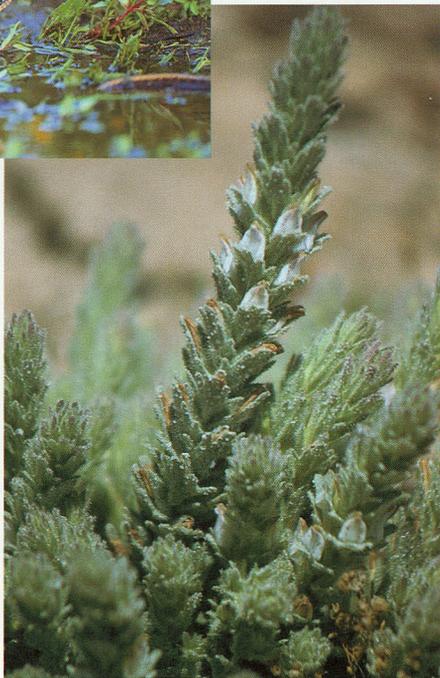
The U.S. Fish and Wildlife Service administers and enforces the Endangered Species Act. The purpose of the Act is to protect endangered and threatened species and to restore them to a secure status in the wild.

The bald eagle, peregrine falcon, giant garter snake, palmate bird's beak, and other threatened and endangered species are being monitored and protected on the Sacramento NWR Complex.

Giant garter snake



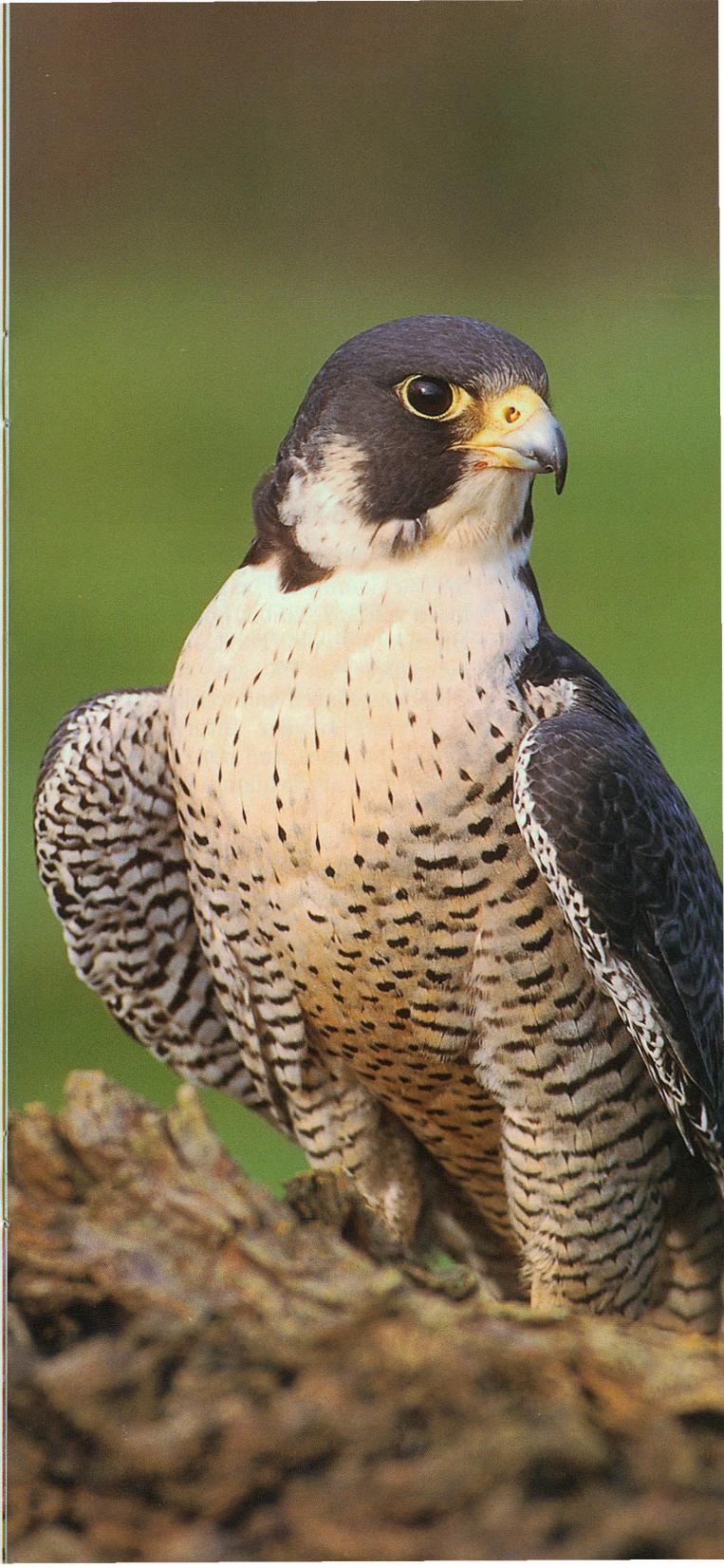
*Palmate
bird's-beak*



**Why Save
Endangered
Species ?**

When a species becomes endangered, it indicates something is wrong with the ecosystem. The measures we take to save endangered species will help ensure that the world we leave for our children is as healthy as the world our parents left for us.

Right: Peregrine falcon



What to See and Do



Observation platform

Help wildlife by staying on the auto tour routes, viewing platforms, turnouts, and trails



Visitor Center

The Sacramento NWR is headquarters for the Complex. The Visitor Center has a wildlife exhibit, bookstore, and Discovery Room. The Center is open everyday from 7:30 am - 4:00 pm October - March and weekdays only the rest of the year. Interpretive kiosks, benches, and restrooms outside the Center are available year-round.

Auto Tour Routes

There are auto routes on Sacramento NWR (6 miles) and Colusa NWR (3 miles) which meander along marshes and streams. A multi-level viewing platform is located halfway on the Sacramento NWR tour route.

Environmental Education

Educational programs are available for schools and groups year-round. To make reservations, contact Sacramento NWR at least two weeks in advance.



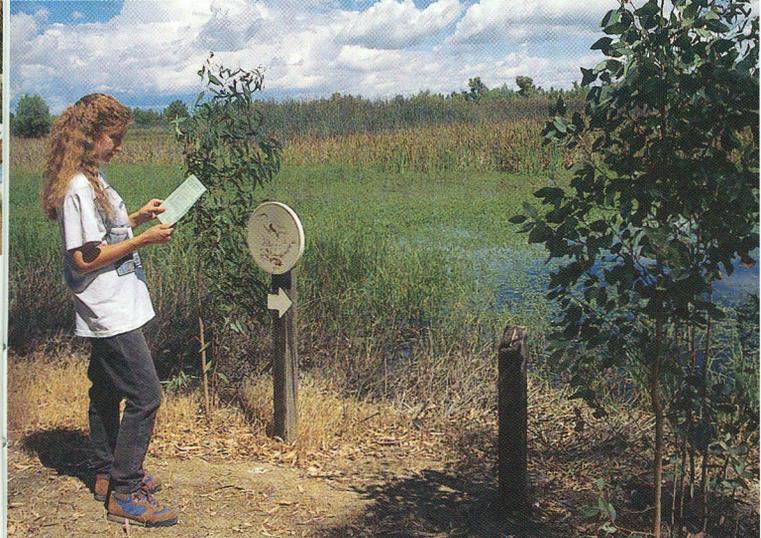
Wildlife Viewing - Photography

Wildlife viewing is a rewarding year-round activity. There are photographic opportunities from blinds, trails, and auto tour routes.

Signs



Please obey all signs. They are placed to protect resting and feeding wildlife.



Walking Trails

Walking trails on Sacramento NWR (2 miles), Colusa NWR (1 mile), and Sacramento River NWR (2/3 mile) meander through wetland and riparian habitat areas. A multi-level viewing platform is located at the halfway point on the Sacramento River NWR trail.

Hunting

During the designated season, hunting of ducks, geese, coots, snipe, and pheasants is permitted October through January on portions of Sacramento, Delevan, Colusa, and Sutter NWRs.

Accessibility

All tour routes and public buildings have disabled access on the Complex.

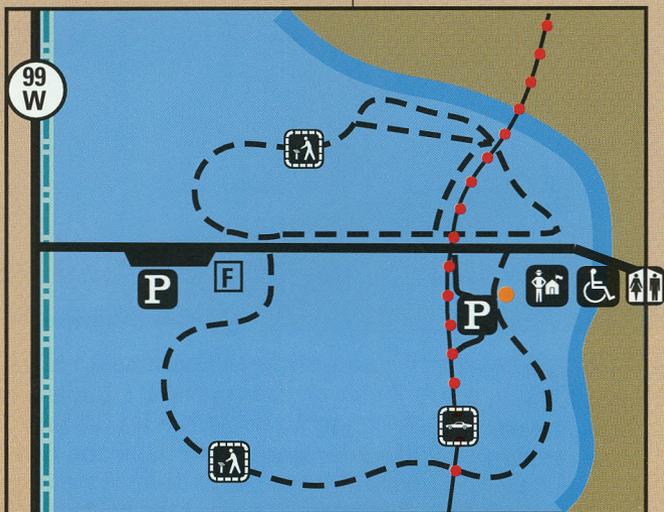
Camping

Overnight camping is not available on the Refuge Complex.

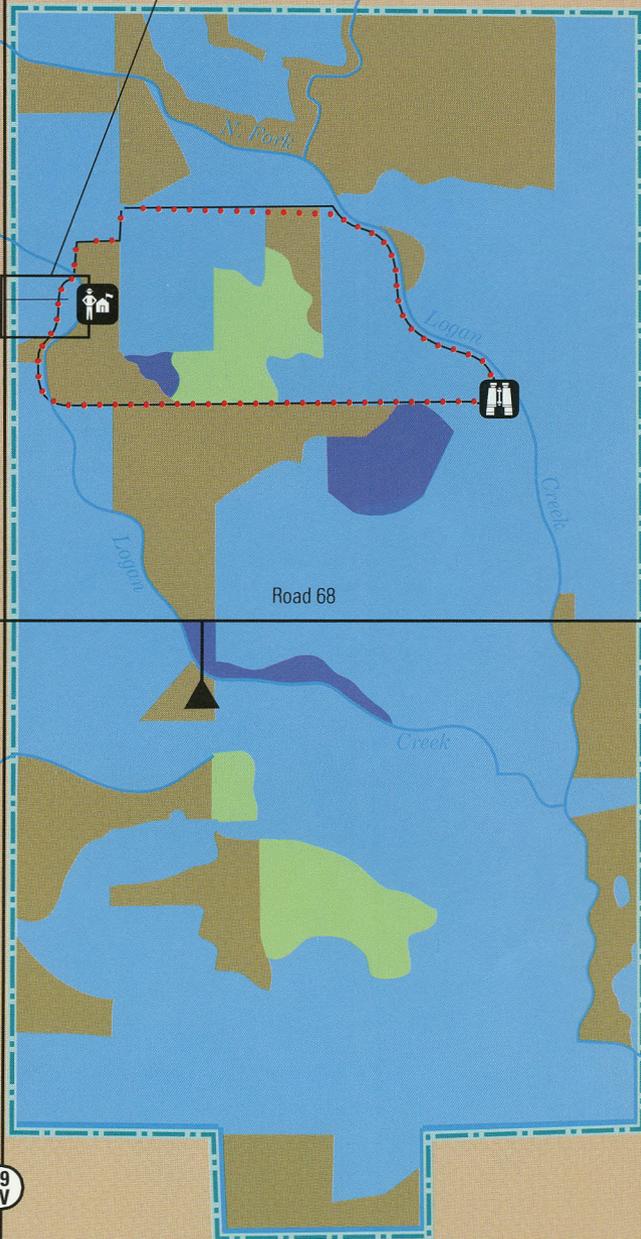
Fees

Fees collected at Sacramento NWR will pay for visitor facilities and wildlife habitat improvement on the Complex. Holders of a Federal Duck Stamp or Golden Eagle, Age, or Access Passport enter free. A \$3 day pass, a \$12 Refuge Annual Pass or \$20.00 Commercial pass can be purchased on-site. An entrance fee is not required on Delevan, Colusa, Sutter, and Sacramento River NWRs.





Area
Enlarged
At Left



Sacramento

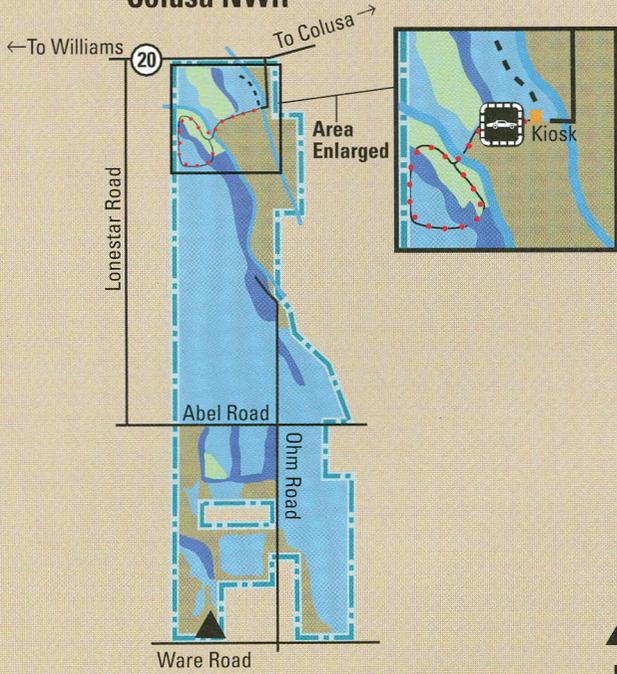
National Wildlife Refuge Complex

- Trailhead
- Refuge Boundary
- Roads
- Auto Tour Route
- Wetlands Walk

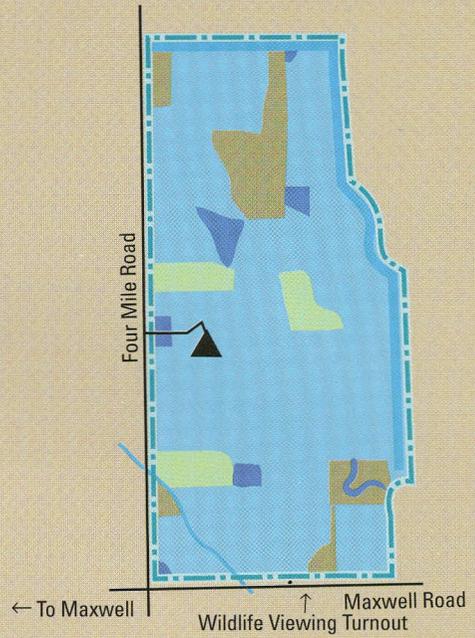
- | | | | |
|--|---------------------------|--|---------------------|
| | Visitor Center | | Uplands |
| | Parking | | Watergrass |
| | Wheelchair Accessible | | Permanent Ponds |
| | Restrooms | | Seasonal Marshes |
| | Wildlife Viewing Platform | | Riparian |
| | Auto Tour | | Hunter Checkstation |
| | Interpretive Trail | | Fee Station |

Not to scale

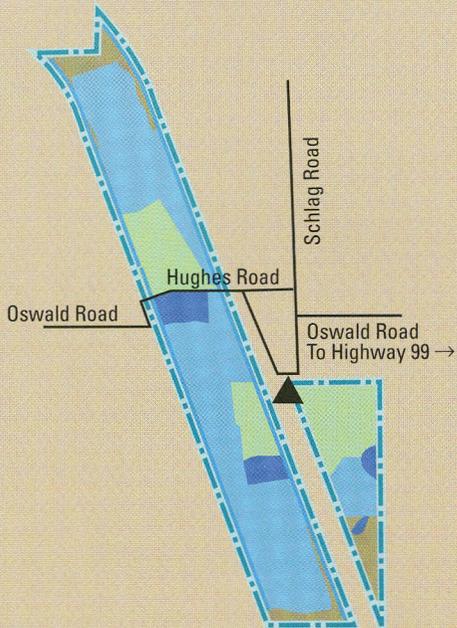
Colusa NWR



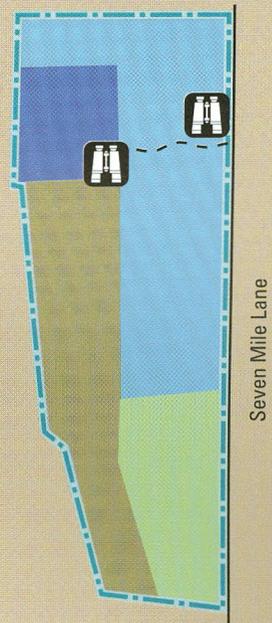
Delevan NWR



Sutter NWR



Sacramento River NWR Llano Seco Unit



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U.S. Fish & Wildlife Service
<http://www.r1.fws.gov/sacnwrc>

For Refuge information
1 800/344 WILD

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