The Delta Ecosystem

Salt Marsh Harvest Mouse

What is an Ecosystem?

An ecosystem is a group of plants and animals in their surroundings interacting and working together as a unit.

The Bay-Delta ecosystem is the largest place on the west coast where the fresh water from the rivers mixes with the salt water from the ocean. There are 154 different species of fish, 225 birds, 52 mammals, and 22 reptile and amphibian species living there, many of which are threatened or endangered.

Why Is the Delta Ecosystem Important to Us?

The Delta ecosystem and its surrounding wetland habitats provide multiple uses.

These include:

- farm land for crops;
- water for household, drinking, agriculture, cities, and businesses;
- water storage;
- water filtration and purification.

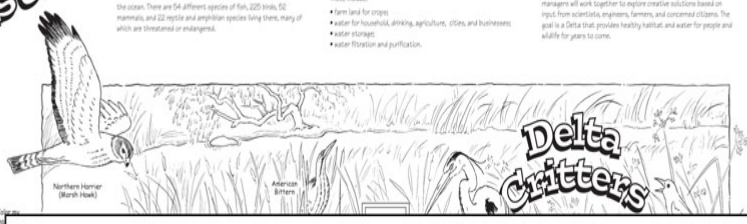
Restoring the Delta Ecosystem

A healthy Bay-Delta system is important to the wildlife that live there, and to the people that rely on the Delta for water. New state laws say that restoring the Delta's ecosystem and ensuring a reliable water supply, *must be equal goals*. To meet these two goals, water managers will work together to explore creative solutions based on input from scientists, engineers, farmers, and concerned citizens. The goal is a Delta that provides healthy habitat and water for people and wildlife for years to come.

What can *YOU* do to Help?

The Delta is a special place to visit and see. Here are four things you can do to protect it:

1) Put trash in its proper place; don't litter.
2) Take pictures of the plants and animals you see rather than removing or displacing them.
3) Leave the area the way you found it. Don't dump plants or animals in the waterways.
4) Save water! The water we use affects the Delta's ability to function properly.
5) Learn about the Delta. Restoring the Delta will take many years, so by the time you grow up, you might be one of the scientists helping to find solutions!

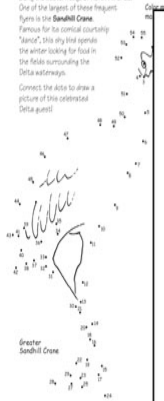


Alien Invaders!

Delta Visitors:

Every year, millions of ducks and geese come to visit the Sacramento-San Joaquin Delta and stay over winter. The Delta is a major resting spot along the **Pacific Flyway** — the bird migration route running north to south along the western edge of North America. One of the largest of these frequent flyers is the **Sandhill Crane**. Famous for its comical courtship "dance", this shy bird spends the winter looking for food in the fields surrounding the Delta waterways.

Connect the dots to draw a picture of this celebrated Delta guest!



A Delta Monster?

No... there aren't any **real** monsters in the Delta. There are some **really big** critters lurking in its waters! This animal can grow up to 20 feet and weigh over 1,000 pounds! Its cousin, seen swimming about this page, doesn't get quite so big.

Unscramble the letters below to find out who this gentle giant is. The answer is on the bottom of this page.

N R U T G O S

the WHITE _ _ _ _ _ _ _ _ _

California's Amazing Delta

What is the Delta?

The Sacramento-San Joaquin Delta is where the **Sacramento River** water flowing south meets the **San Joaquin River** flowing north. The two rivers mingle with rivers of smaller **watersheds** to form a 700-mile-long maze of rivers and sloughs surrounding over 60 islands, most of them agricultural.

No other single area is quite as crucial to the state's overall water picture as the Delta—it is a hub of California's two largest water projects. Its existing channels are used to provide the water needs of the Delta and surrounding areas as well as to transport water to federal and state pumps in the southern Delta.

Why is the Delta Important to us?

The Delta delivers fresh water crucial to California's water supply. It provides drinking water for over 22 million people. It supports California's trillion-dollar economy, including its $27 billion agricultural industry. The Delta's channels transport water south to California's two largest water delivery systems: the **Delta-Mendota Canal** and the **California Aqueduct**. Delta **levees** protect farms, homes, and infrastructure. The Delta also supports important habitat for many species that rely on this unique area where fresh water meets salty ocean water, called an **estuary**. The brackish marshes and the San Francisco Bay allow the Delta to form the largest estuary on the west coast—home to 750 plant and animal species.

Water Quality and the Delta

The Delta has historically been at the mercy of the river **flood** flows and **tidal** influences. Although upstream **dams** help control floods today and help regulate Delta **salinity**, the salty ocean water can creep up Delta channels when mountain **runoff** and releases from **reservoirs** slow down. But when water is flowing strong, like during the winter or spring when there is a heavy runoff from the mountains, this outward flow keeps the sea water out of the Delta.

These waters flow west through the Delta and San Francisco Bay to the ocean, holding back the salt waters of the Bay and protecting water quality for consumption, recreation, and farming.

The Delta Dilemma

Straining under dual roles as critical habitat and serving water project needs, the Delta is in decline from decades of competing demands and struggles to function as a healthy **ecosystem** and as a reliable source of water.

Finding Solutions

Because so many people—and other living things—depend upon the Delta, we need input and cooperation from many different groups to help find solutions to restore the Delta. Government agencies dedicated to improving the Delta rely on information from biologists, engineers, water companies, farmers, Delta residents, and other government agencies to come up with plans that will restore the Delta's ecological health and improve its ability to reliably supply clean water for drinking, agriculture, and other needs.

Delta Word Search

G R A Q U E D U C T I
S A N J O A Q U I N S
C S A L M O N G F S A
A M D E D T A D L T C
L O R E S E R V O I R
F L O O D P L F T D A
L L M I G R A T E A M
E S O R Q U I W A L E
V R U N O F F O N E N
E O S A L I N I T Y T
E C O S Y S T E M C O

Find these words:

ANADROMOUS	SAN JOAQUIN
AQUEDUCT	RESERVOIR
DAM	RUNOFF
DELTA	SACRAMENTO
ECOSYSTEM	SALINITY
FLOOD	SALMON
LEVEE	SPAWN
MIGRATE	TIDAL

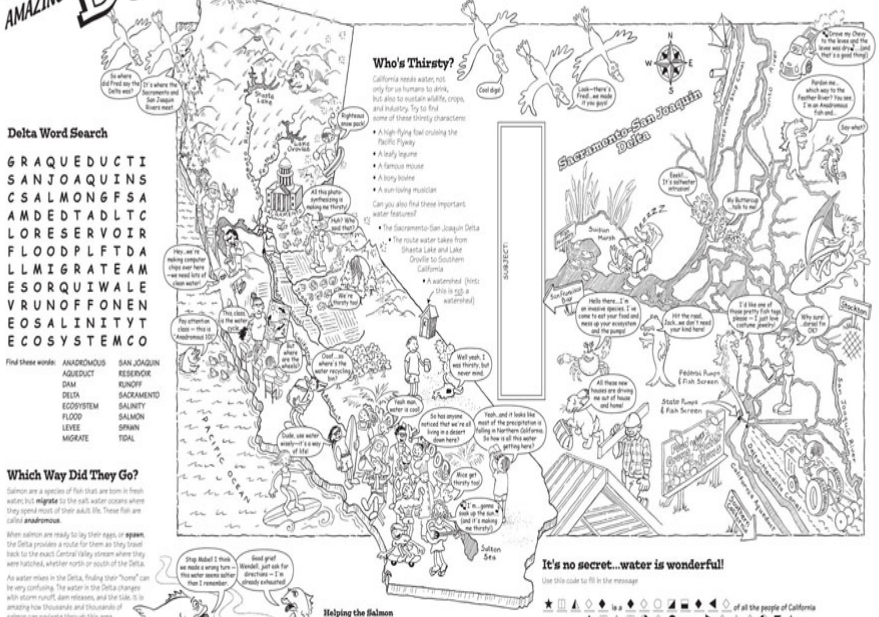
Who's Thirsty?

California needs water, not only for us humans to drink, but also to sustain wildlife, crops, and industry. Try to find some of these thirsty characters:

- A high-flying fowl cruising the Pacific Flyway
- A leafy legume
- A famous mouse
- A horny bovine
- A sun-loving musician

Can you also find these important water features?

- The Sacramento-San Joaquin Delta
- The route water takes from Shasta Lake and Lake Oroville to Southern California
- A watershed (hint: this is not a watershed)


Sacramento-San Joaquin Delta
SACRAMENTO
PACIFIC OCEAN
Suisun Marsh
Stockton
Fremont
Sutter
Shasta
Oroville
Folsom
Pardee
Camanche
Los Vaqueros Reservoir
Clifton Court Forebay
Banks Pumping Plant
Tracy
Jones Pumping Plant
Delta-Mendota Canal
California Aqueduct
Antioch
Pittsburg
Benicia
Martinez
Carquinez Strait
Suisun Bay
Sherman Island
Twitchell Island
Bethel Island
Brannan Island
Rio Vista
Isleton
Walnut Grove
Courtland
Clarksburg
Hood
Freeport
Sacramento
West Sacramento
Woodland
Davis
Dixon
Vacaville
Fairfield
Suisun City
Rio Vista
Collinsville
Pittsburg
Antioch
Brentwood
Oakley
Byron
Discovery Bay
Tracy
Lathrop
Manteca
Ripon
Escalon
Lodi
Stockton
Lockeford
Linden
Farmington
Oakdale
Modesto
Turlock
Merced
Los Banos
Patterson
Newman
Gustine
Crows Landing
Grayson
Westley
Vernalis
Tracy
Mendota
Firebaugh
Los Banos
Dos Palos
Gustine
Newman
Patterson
Crows Landing
Modesto
Turlock
Merced
Stockton
Lodi
Manteca
Ripon
Escalon
Oakdale
Sonora
Jamestown
Columbia
Angels Camp
Murphys
Arnold
Copperopolis
Valley Springs
Calaveras
Mokelumne
Cosumnes
Mokelumne River
Cosumnes River
Calaveras River
Stanislaus River
Tuolumne River
San Joaquin River
Sacramento River
Feather River
American River
Yuba River
Bear River
Putah Creek
Cache Creek
Sutter Bypass
Yolo Bypass
Suisun Marsh
Suisun Bay
Carquinez Strait
San Pablo Bay
Richmond
Oakland
San Francisco
Alameda
San Leandro
Hayward
Fremont
Newark
Union City
Milpitas
San Jose
Santa Clara
Sunnyvale
Mountain View
Palo Alto
Menlo Park
Redwood City
San Mateo
Burlingame
San Bruno
South San Francisco
Daly City
Pacifica
Half Moon Bay
Santa Cruz
Monterey
Salinas
Watsonville
Gilroy
Hollister
San Benito
Pinnacles
Coalinga
Huron
Avenal
Kettleman City
Lemoore
Hanford
Visalia
Tulare
Porterville
Delano
Bakersfield
Taft
Maricopa
Wasco
Shafter
Arvin
Lamont
Edison
Buttonwillow
Kern River
Kern National Wildlife Refuge
Tulare Lake Bed
Kings River
Kaweah River
Tule River
Kern River
Poso Creek
Cottonwood Creek
Elk Hills
Midway-Sunset Oil Field
Belridge Oil Field
Coalinga Oil Field
Kettleman Hills
Lemoore Naval Air Station
Naval Air Station Lemoore
Pine Flat Reservoir