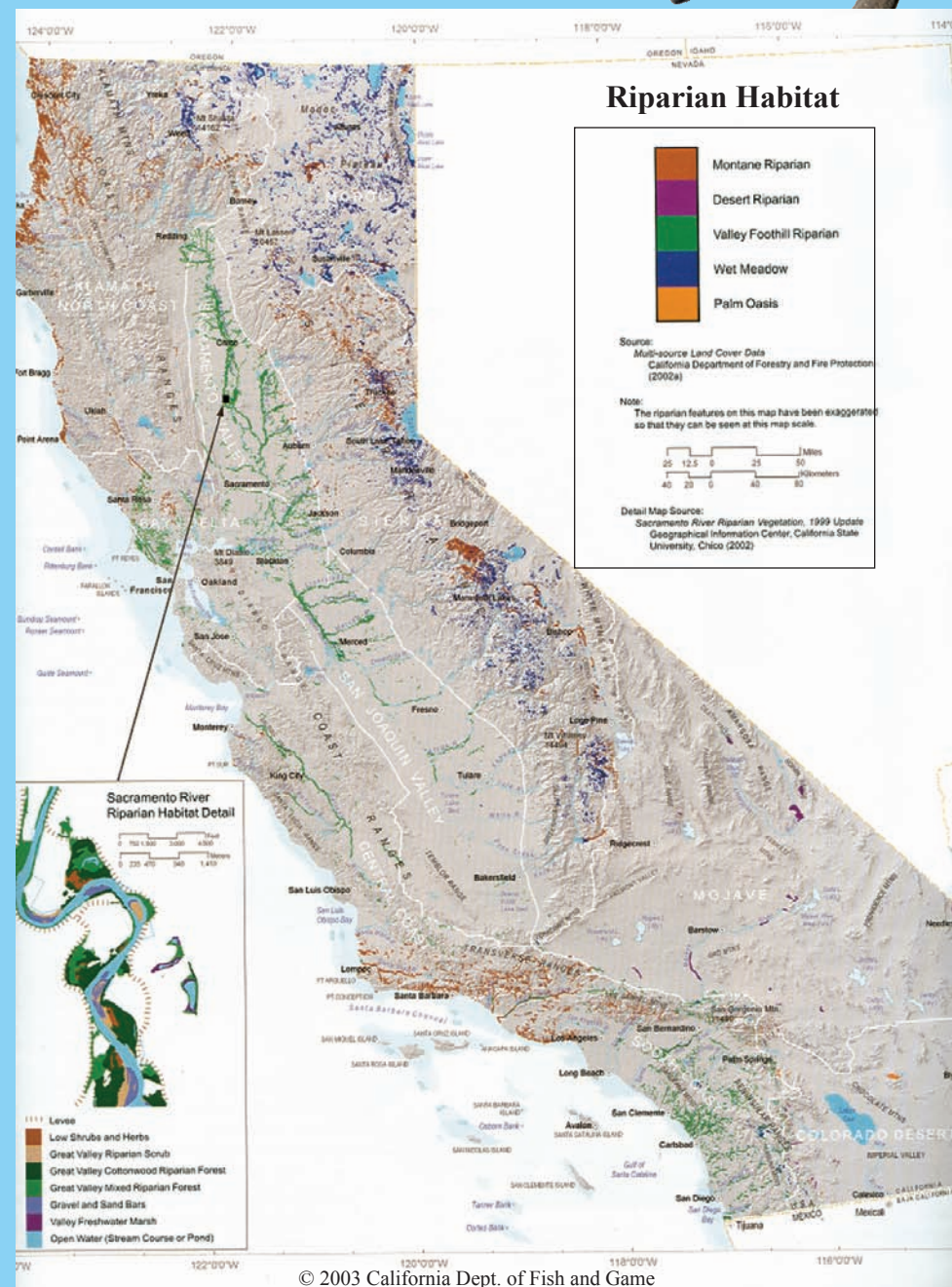# Riparian Community

What is a riparian community?

Riparian communities are shaped over time by the meandering courses of rivers, streams and creeks. Characterized by flowing water, seasonal flooding and low light levels, riparian plants and animals are well adapted to these conditions. Many of the trees and shrubs are deciduous species that lose their leaves in the fall and winter. This annual shedding of leaves helps to build the soil and provides food for organisms that live in and along the stream.

Flooding along riparian areas also helps to build the soil by depositing sediments that are rich in organic matter. Over time, thick terraces of soil develop, creating ideal conditions for plants and wildlife.

Plants along the shoreline of riparian wetlands such as willows, alders and rushes, help to reduce excessive flooding and erosion by slowing the water down and by holding the soil in place with their roots. Many wetland plants are excellent filters and remove excess nitrogen, sediments and other harmful organic and inorganic compounds from the water.

Riparian Habitat

Montane Riparian
Desert Riparian
Valley Foothill Riparian
Wet Meadow
Palm Oasis

Source: California Department of Forestry and Fire Protection (2002a)

Note: The riparian features on this map have been exaggerated so that they can be seen at this map scale.

Detail Map Source: Sacramento River Riparian Vegetation, 1999 Update Geographical Information Center, California State University, Chico (2002)

Sacramento River Riparian Habitat Detail

Levees
Low Shrubs and Herbs
Great Valley Riparian Scrub
Great Valley Cottonwood Riparian Forest
Great Valley Mixed Riparian Forest
Gravel and Sand Bars
Valley Freshwater Marsh
Open Water (Stream Course or Pond)

© 2003 California Dept. of Fish and Game

What is a riparian corridor and why is it so important?

Riparian areas provide safe corridors for the movement of a diversity of plants and animals. Many birds, amphibians, fish, insects and mammals depend on riparian areas and wetlands for resting, feeding, breeding and nesting.

Birds such as the yellow-breasted chat, great egrets, green-backed herons and belted kingfishers take advantage of the thick vegetation along riparian corridors for nesting and feeding.

Dr. Lloyd Glenn Ingles © California Academy of Sciences

Mammals such as raccoon, deer and mountain lion also take advantage of riparian areas for feeding, drinking and shelter. Riparian corridors have always been essential for the migration of birds and other animals, but are becoming even more critical as highways and human activities fragment the natural routes that animals use to move within and between territories.

Great Egret

Gerald and Buff Corsi © California Academy of Sciences

Raccoon

Why is moving water so important to riparian habitats?

The turbulence of moving water allows bubbles of air to enter, providing oxygen that is vital to aquatic insects, fish and other organisms. The flowing water also carries tiny pieces of food to filter feeding animals attached to rocks such as the larvae of damselflies and caddisflies. In the Cheeseman ESA, the waterfall provides the initial flow.

Fish such as salmon, trout and hitch are uniquely adapted to fast moving water as characterized by their streamlined bodies and maneuverability. Some fish, such as the hitch found here in the Cheeseman ESA, spend their entire lives in freshwater streams, while anadromous fish such as salmon spend their adult life at sea, only returning to their nursery streams to spawn and die.
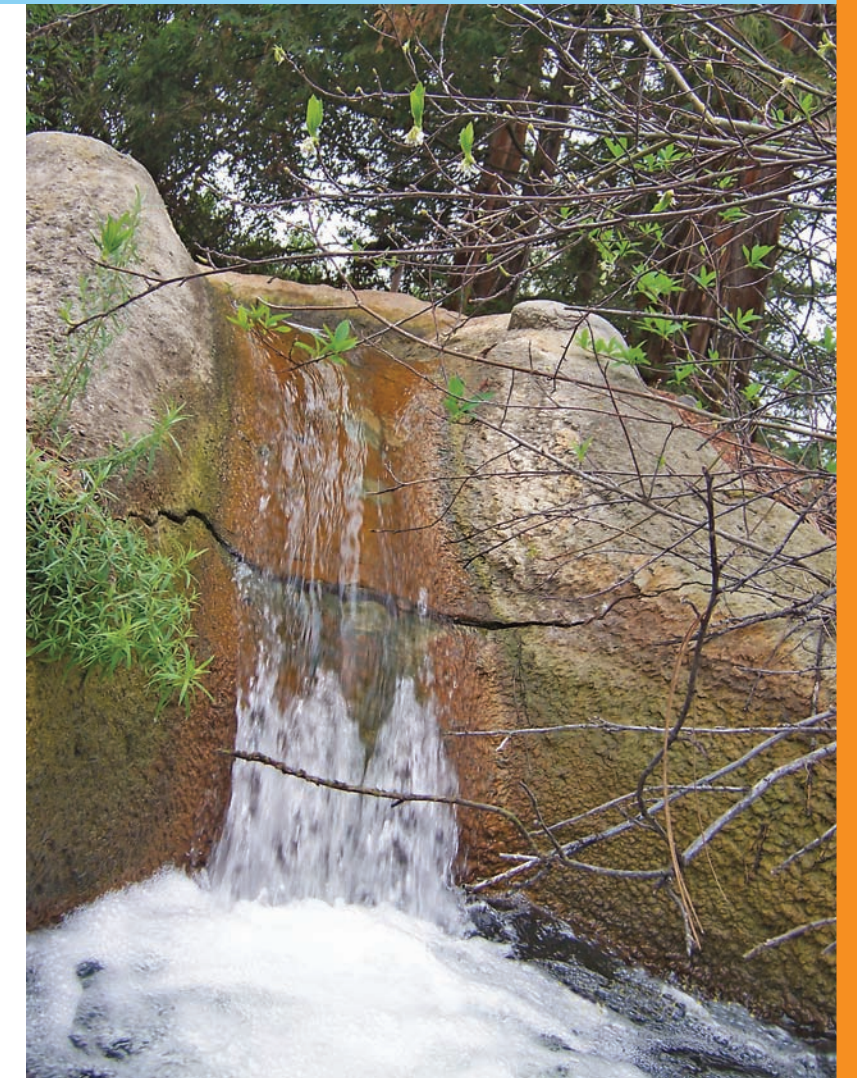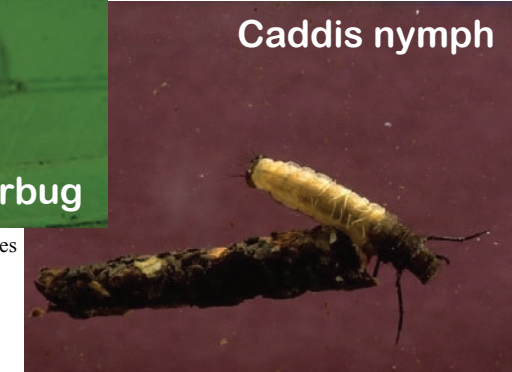
Annie Presler © De Anza College 2006

Giant Waterbug

Gerald and Buff Corsi © California Academy of Sciences

Caddis nymph

Dr. Antonio J. Ferreira © California Academy of Sciences
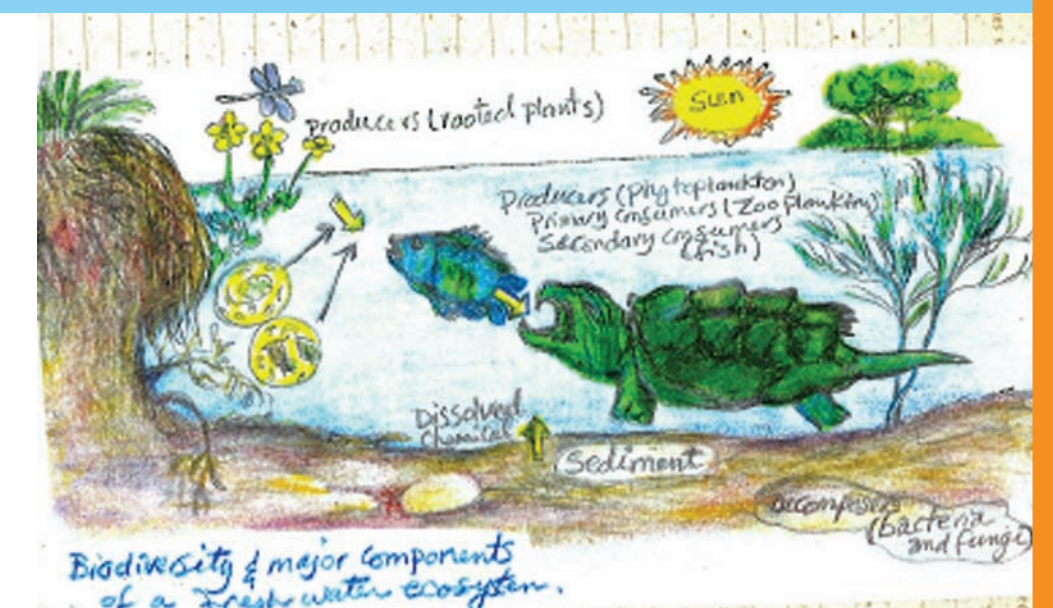
Cutthroat Trout

William Leonard © California Academy of Sciences

Why should we care about riparian communities?

Riparian ecosystems are intrinsically vital to the health and survival of life on earth.

When there is excess rain, riparian wetlands help to reduce the risk of flooding by absorbing large quantities of water. The water from wetlands seeps into the ground, helping to recharge the groundwater that we rely on for drinking water. Wetlands also act as carbon sinks, trapping greenhouse gases like carbon dioxide and methane, thereby reducing the amount of greenhouse gases in the atmosphere.

Unfortunately, poorly managed agricultural and industrial practices have led to the demise of riparian habitats, an increase in soil erosion and the depletion of rich organic topsoil. Human activities have also damaged streams by allowing excessive amounts of sediment, herbicides, pesticides and fertilizer into the water. This not only affects the health of the riparian organisms, it lowers the quality of water for human consumption.

Kayvon Shakibaee 2004