



## **Theme: Water (Grades 6-8)**

### **Sub Theme: Ecosystem of Wetlands**

#### **Pre-Visit Activity #1: (30-45 minutes)**

#### **Life at the Springs Preserve**

##### **Overview:**

After completing this pre-visit lesson, the students will be able to name and identify the plants and animals currently found at the Springs Preserve. They will also be able to name and describe the types of wetlands found around the world.

##### **Objectives:**

- Students will electronically visit the wetlands found in Watsonville, California
- Students will create picture cards of plants and animals currently found in the cienega at the Springs Preserve by using the internet and/or other resources
- Students will identify and describe different kinds of wetlands

##### **Materials:**

Pencil  
Paper  
Computers (with access to the internet)

##### **Background:**

Wetlands are found throughout the United States. Wetlands are places that provide a transition between land and water. They are a precious ecological resource, hosting a varying combination of plants and animals.

Wetlands are extraordinarily productive and biologically diverse ecosystems, home to 1/3 of threatened and endangered species in the United States. In Nevada, they are some of the most economically and ecologically valuable lands, even though they only cover about 2% of the state. Around the world, in the United States, and in Nevada wetland habitats are being destroyed. In fact, approximately 52% of the wetlands once found in Nevada are gone. Agricultural activities such as draining, diking, and plowing, account for about 85% of the destruction of wetland habitats. Further destruction occurs through the development process for subdivisions, shopping malls, business parks, and road construction. Dikes and levees are built along rivers to divert floodwaters.

Pollution has further impacted the wetlands, as have logging, mining, and grazing activities.

Despite the desert climate, marshes and meadows could be found throughout the Las Vegas Valley for more than 25,000 years. Most have gone away, including the wetland on the Springs Preserve, which disappeared just a few decades ago, leaving only a dry creek bed and a few meadow grasses. For several years, restoration ecologists have been working on re-establishing the desert wetland called cienega (a Spanish term meaning “spring-fed wetlands”) at the Springs Preserve. Like the original cienega that was present when the springs were active, this wetland is a natural detention, filtration system, and habitat for wildlife.

During the field experience at the Springs Preserve the students will survive a flash flood, and will learn how the earth filters and cleans run-off water from these floods. They will learn how the desert stores water in aquifers, and they will learn about the desert wildlife that has returned to the Springs Preserve since the cienega has begun the process of rehabilitation.

### **Activity:**

#### **Part 1**

1. Ask students to brainstorm a list of ecosystems (desert, forest, ocean, etc.), making sure that wetlands are included on the list.
2. Tell students they will be learning about wetlands.
3. Divide the students into small groups and gather around a computer.
4. Direct the students to [www.eFieldTrips.org](http://www.eFieldTrips.org); then, select *Available Field Trips*, then *WOW! The Wetlands of Watsonville*. (Note: Be sure you have logged on previously and you can direct the students through your login information.)
5. Each small group should work its way through this electronic field trip, being sure to select all the links and read all available information.
6. When all have completed the “trip,” ask the students to describe the Watsonville Wetlands. You are looking for attributes that would lead one to identifying the type of wetland that it is (see *vocabulary list for types of wetlands*).
7. Recall the plants and animals found in the Watsonville Wetlands. Then ask the students to identify those that might be found in a Southern Nevada wetland.

#### **Part 2**

1. Tell the students that they will be visiting the Springs Preserve cienega. Direct the students to recall the attributes of a cienega.

2. Brainstorm a list of plants and animals that the students think they might find at the cienega. Do this activity orally – do not use a graphic organizer since these are not facts, but rather ideas at this point.
3. Divide the students into groups of 2 or 3 each. Distribute cards on which the name of a plant or animal found in the Springs Preserve has been written (*see attached list*). Make sure that each group has cards with both plants and animals.
4. Using multiple resources, including the Internet, the students will find a picture of each organism to attach to the card.
5. Place 9 chart-sized sheets of colored paper around the room with the following labels: mammals, birds, protists, reptiles, fish, fungus, invertebrates, bacteria, and plants.
6. Give each small group a roll of tape. The students will then place their illustrated organism cards on the appropriate charts.
7. When all cards are displayed, ask the students if there are any cards not on the correct chart. Move cards as necessary.
8. The students will create a Venn diagram comparing and contrasting the Watsonville Wetlands with the cienega at Springs Preserve.

**Discussion:**

Why are the plants and animals currently found in the Springs Preserve able to survive in this location? How would the introduction of an invasive plant species affect the Springs Preserve cienega? Why are there a variety of wetlands?

**Teacher’s Guide: Organisms Located at the Cienega**

**Plants:**

- Catclaw Acacia
- Gooding’s Willow
- Fremont’s Cottonwood
- Narrowleaf Willow
- Screwbean Mesquite
- Southern Cattail
- Western Honey Mesquite
- Yerba Mansa

**Invertebrates:**

- Sphinx Moth
- Dragonfly
- Southern House Mosquito
- Midge
- Harvester Ant
- Damselfly
- Carpenter Bee

**Birds:**

- Black-chinned Hummingbird
- Gambel's Quail
- Greater Roadrunner
- Red-tailed Hawk
- Snowy Egrets

**Reptiles:**

- Coachwhip (racer snake)

**Mammals:**

- Desert cottontail
- Gray fox
- Coyote
- Humans
- Western Pipistrel Bat
- White-tailed Antelope Ground Squirrels

**Teacher Note:**

If you feel more comfortable having students learn vocabulary through a crossword, one can be found at:

[www.epa.gov/owow/wetlands/pdf/kidspuz.pdf](http://www.epa.gov/owow/wetlands/pdf/kidspuz.pdf).