



Section A: Rio Bravo

3. Set up the river as Rio Bravo (see the activity “Changing River”).
4. Option a: Plant Match: Pass out the descriptions of the Rio Bravo plants and the plant drawings to the students, making sure that students do not receive the same drawing that they have a description for. Take turns, with each student reading a description. Students should guess what plant is being described. The student who has the corresponding drawing should place the plant on the model in the habitat that was described in the reading. Continue around the room until all of the plant cards are read and plant drawings are placed on the model.
- or Option b: If you have less class time, hand out the plants with their matching descriptions to the students. Each student should have at least one plant of his or her own. Have the student carefully read the description and decide where that plant grows. What is its habitat? Students should then place the plant on the bosque model in a location where it would grow best. Place them on the Rio Bravo bosque—before the ditches, levees and homes. Have each student describe his or her plant and where it grows to the entire group.

Section B: Rio Manso

5. Now transform the river to Rio Manso (see “Changing River” activity) by adding the human alterations to the bosque model: irrigation ditches, levees, jetty jacks, etc.
6. Ask the students if the habitats where their plants were originally growing have changed. Can the plants still live there? Move the plants to a better habitat if necessary. The students may want to remove some of the wetter plants such as cattails and sedges, but they may also find a place for them. The students can also move some of the upland plants such as one-seed juniper and four-wing saltbush into the bosque to signify that the bosque is now drier.
7. Using the same method (Option A or Option B) in Step 3, add the introduced species to the model. Do the students think that the introduced plants could compete with the native plants?

Section C: Rio Nuevo

8. Discuss what impacts restoration projects can have on these plants (Rio Nuevo changes). Using restoration project ideas from the “Changing River” or ideas from the students themselves, adjust the cards (such as removing exotic species) based on student discussion.



- Extensions:**
1. Combine this activity with “Who Lives Where” to compare animals and plants. Look for opportunities to place animals on the model with the plants that provide their food or shelter.
 2. Use the animal cards from “Who Lives Where” with these plant cards to do “The Web” activity in Chapter 5 of this guide.
 3. Oral history extension: send plant drawings home with students to ask elders about local names, uses of the plants, and stories about them.

Who Grows Where? Rio Bravo

Common Name	Scientific Name
Rio Grande cottonwood	<i>Populus deltoides</i> subsp. <i>wislizenii</i>
New Mexico olive	<i>Forestiera neomexicana</i>
Coyote willow	<i>Salix exigua</i>
One-seeded juniper	<i>Juniperus monosperma</i>
False indigo	<i>Amorpha fruticosa</i>
Western virgin's bower	<i>Clematis ligusticifolia</i>
Screwbean mesquite	<i>Prosopis pubescens</i>
Wolfberry	<i>Lycium pallidum</i>
Prickly pear	<i>Opuntia</i> spp.
Giant sacaton	<i>Sporobolus wrightii</i>
Sedge	<i>Carex</i> spp.
Saltgrass	<i>Distichlis spicata</i>
Smooth scouring rush or horsetails	<i>Equisetum laevigatum</i>
Yerba mansa	<i>Anemopsis californica</i>
Hooker's evening primrose	<i>Oenothera hookeria</i>
Broad-leaved cattail	<i>Typha latifolia</i>
Sacred datura	<i>Datura wrightii</i>
Sunflower	<i>Helianthus annuus</i>
Spectacle pod	<i>Dithyrea wislizenii</i>

Who Grows Where? Rio Manso

Tamarisk	<i>Tamarix chinensis</i>
Tree of heaven	<i>Ailanthus altissima</i>
White sweet clover	<i>Melilotus alba</i>
Russian olive	<i>Eleagnus angustifolia</i>
Cheatgrass	<i>Bromus tectorum</i>
Kochia	<i>Kochia scoparia</i>

I have tiny green scale-like leaves and long narrow clusters of tiny pink blossoms. Birds and mammals use my branches for nesting and cover. Honeybees drink my nectar. I am known as a phreatophyte* or a well plant because I have deep roots that drink a lot of water from the sandy soil. Where I grow, the soil is salty. Not only can I tolerate salt, but my leaf scales concentrate salt from soil and deposit the salt on the leaf surface. Each fall my leaves turn golden orange then fall to the ground. As my leaves decompose, the soil becomes saltier. My ancestors came from southern Europe or the Mediterranean region.

*phreatophyte is pronounced 'free-at-oh-fight'

Saltcedar

Tamarix chinensis



GM

I come from China, but now I make my home in the Southwest too. My huge compound leaves grow on stout twigs, and the oily glands on my leaves have a disagreeable odor. Clusters of my small yellow-green flowers bear fruits with dry creamy-pink wings. I am a survivor that can grow in very difficult conditions, such as near sea level or in very high mountains. I send up suckers from my roots, which form a thick grove of trees. My name comes from my height that reaches to the sky.

Tree of Heaven

Ailanthus altissima



RDI

Rio Manso

Bees love the nectar from my tiny white flowers in the summer, and in the fall and winter goldfinches eat my seeds. Introduced from Europe, I have been planted in some places to stabilize soil, but I have spread along roadsides and other disturbed areas. As a member of the legume—or pea—family, my roots can enrich the soil by fixing nitrogen. I take two years to produce flowers and seeds and can reach 2 to 6 feet (.06–2 m) tall. In my first year, I am a tiny clump of leaves. My leaves have three leaflets with serrated—or jagged—edges. In my second year of growth I send up a stalk of tiny, white flowers that produce the nectar honey producers cherish. If cattle eat too much of me they can bloat.

White Sweet Clover

Melilotus alba



RDI

I am a native of Eurasia and was brought to New Mexico to prevent soil erosion, though I am also used in landscaping. Sandy soil suits me fine. In the bosque, I sometimes grow in thick clumps of small trees, and I often have sharp thorns. The top of my lance-shaped leaf is dark blue-green and covered with tiny, soft, star-shaped hairs. So many soft hairs cover the bottom leaf surface that it is silvery white. These hairs help keep moisture in my leaves in the hot sun. Bees collect nectar from my tubular, silvery-yellow, lovely-smelling flowers. My fleshy olive-like fruit is eaten by mice, rock squirrels, grosbeaks, towhees and robins who in turn help spread my seed. Because my fruit stays on my branches long after leaves have fallen, it provides food for wildlife in the winter.

Russian Olive

Eleagnus angustifolia



RDI

My name refers to my ability to get a head start on other grasses by using winter and spring moisture to grow early in the season. While still young and tender, livestock graze my flat leaf blades, but when I mature I have nasty awns—bristle-like appendages—on my seeds. These awns stick in the animals' mouths if they eat me after I have gone to seed. The awns allow my seed to catch a ride in animal fur or people's socks to travel to a new home. When I reach maturity I dry out or "cure" and become a fire hazard. Because I like to grow in disturbed areas I can dominate an area after a fire. This creates a frequent fire cycle that favors my growth over the native grasses. I am relatively new to America but I now grow in much of the western U.S. I originally came from southern Europe and southwestern Asia.

Cheatgrass

Bromus tectorum



In the same growing season I spring from a small, wedge-shaped seed to a large herb reaching as high as six feet tall. My stems have many round, slender and soft hairy branches. My alternate, lance-shaped leaves have edges fringed with hair and three or five prominent veins. My tiny green flowers are so small you may not notice their dense spikes, but when they bloom, they cause allergies in lots of people. I grow in cultivated fields, gardens and waste areas in the bosque where the soil has been disturbed. Birds and mice eat my dull brown seeds. Livestock will eat my leaves, but too many causes an upset stomach. An invasive species from Asia, I have spread all through the United States.

Kochia

Kochia scoparia

