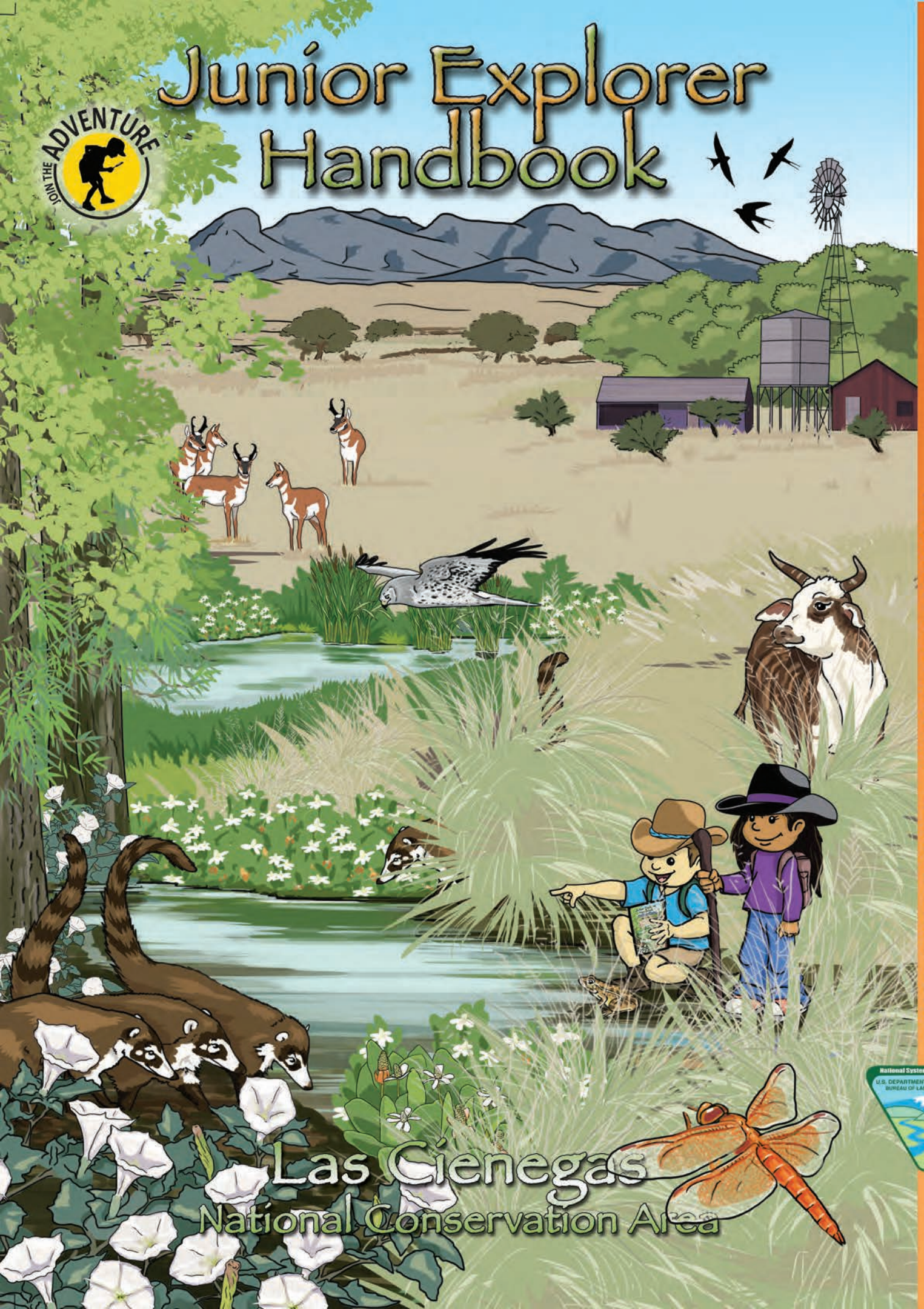




Junior Explorer Handbook

BLM

Arizona - Gila District - Tucson Field Office



Las Cienegas
National Conservation Area



Become a Junior Explorer!

A Junior Explorer explores the environment around them.

A Junior Explorer respects the plants, animals, land, and other people.

A Junior Explorer encourages others to care for the land and its inhabitants.

How to earn your patch

Complete the activities and answer the Junior Explorer questions in this book while in the Las Cienegas National Conservation Area, at home, or in school.

To receive a patch for your backpack or jacket contact:



Bureau of Land Management
Tucson Field Office
3201 East Universal Way
Tucson, AZ 85756

(520) 258-7200

Partnerships

The creation of Las Cienegas NCA is rooted in collaborative partnerships. You are welcome to attend ongoing volunteer projects and special events throughout the year offered by the following partners:

The **Empire Ranch Foundation** enhances educational and recreational opportunities in Las Cienegas NCA with several Hands on the Land youth programs. www.empireranchfoundation.org

The **Cienega Watershed Partnership** assists the BLM and adjacent Cienega Creek watershed landowners in adaptive land management projects. www.cienega.org

The **Appleton-Whittell Research Ranch** lies in the southern portion of the NCA and provides regional education and outreach. researchranch.audubon.org



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Catie Fenn, Felipe S. Molina, Landon Walls, TreadLightly!

LAS CIENEGAS

National Conservation Area

Wide open spaces greet you as you enter this grassland, so, slow down, and take in the scenery and enjoy ...

The first stop at the information kiosk helps you figure out exactly where you are. Look at all the mountains that surround this valley. The Santa Ritas are to your west, the Whetstone Mountains are to the east, and the Mustang Mountains lie to the southeast.

Now you are ready to head to the Empire Ranch Headquarters. On your way you may see cattle, deer, and pronghorn antelope grazing. In the fall and winter, you may also see northern harriers hovering over the grasslands. The males of this hawk species are gray and the females are brown. They hover while looking for small rodents to eat.



Empire Ranch Headquarters

Look for the windmill, corrals and old buildings. Take a walk around the old Empire Ranch Headquarters. There are many buildings here. What do you think some of these buildings were once used for? There are plenty of rooms to explore in the main Empire Ranch House, 23 of them in all. Imagine if you lived here and your family worked on the ranch, what might your life be like? What chores would keep you busy? What animals might you have? Where would you go to school? How different might your life have been a hundred years ago?

Heritage Discovery Trail

Las Cienegas, as its Spanish name implies, is home to marshes and riparian areas. You are welcome to walk along the Heritage Discovery Trail into the Empire Gulch. You will be amazed by how big the cottonwood trees are. You will see yerba mansa and cattail growing in the flowing small creek's marsh areas. Listen for the sounds of birds such as the red-winged blackbird and resident lizards scurrying through fallen leaves. Do you hear the plop of leopard frogs jumping into the water as you walk along? If you are lucky, you may see a band of coatimundi looking for food along the stream.



NCA BINGO

Las Cienegas Observations

When you are driving or hiking in Las Cienegas National Conservation Area, there are lots of things you may see including the plants and animals that live here. You may see other people enjoying the area, or the park ranger. See if you can find four in a row and win a game of Las Cienegas National Conservation Area Bingo!

Hawk	Barn Swallow	Dragonfly	Mesquite Tree
Windmill	Lizard	Frog	MP3 player Tourmate
Pronghorn	Home State License Plate	Mountain Range	Park Ranger
Marsh	Barbed Wire Fence	Quail	Information Kiosk

MARSH INHABITANTS

in different languages

ENGLISH	SPANISH	YAQUI	TOHONO O'ODHAM
marsh	ciénega	vahkom	va:mul
cattail	espadaña	tuuli	'uduvhag
cottonwood	alamo	avaso	'uappa

There is lots of activity going on in the marshes of Las Cienegas NCA. A **deer** carefully walks to the edge of the marsh for a drink. A migrating **duck**, the **cinnamon teal**, finds a place to stop and rest. The Teal finds its food, including insects and aquatic (water dependent) plants like the floating **duckweed**, in shallow water. The aquatic plants also provide hiding places for native fish like **Gila topminnow** and the colorful **desert pupfish**. These tiny fish help control mosquitoes by eating their larvae. Both adult **Mexican gartersnakes** and **Chiricahua leopard frogs** hunt in the marsh for insects and fish to eat. The secretive **Sora rail** hides among the cattails while above the **red-winged blackbird** displays and calls. Standing like a statue, the **great blue heron**'s bill is pointed so it can spear fish to eat. The **Sonoran mud turtle** is hard to see unless it comes to the surface as its brown shell matches the muddy color of the marsh bottom. **Flame skimmer dragonfly** watches over the scene.

Can you find all these plants and animals below? Which ones did you see on your visit to Las Cienegas? Do you know the names of any of these plants and animals in another language?

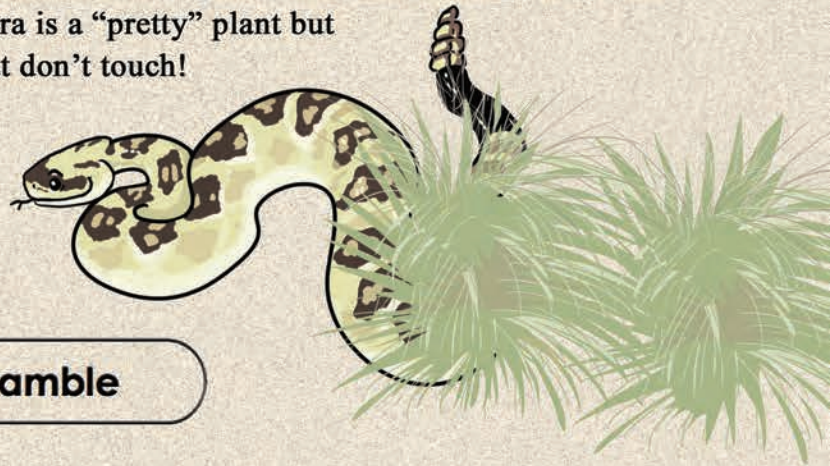


PRETTY PERILS

look but don't touch!

Some of the plants and animals on Las Cienegas are pretty but you should not touch them. While exploring the NCA, look carefully where you put your feet and hands because several kinds of rattlesnakes live here. They like the shade in and around old buildings so look around corners and in doorways before you enter. Rattlesnakes are a “pretty” animal but they have “bad” venom in them. The jimson weed or sacred datura is a “pretty” plant but has “bad” poisons in it, please look up close, but don’t touch!

Unscramble the words below to learn about some of the plants and animals to be careful of.



Word Scramble

1. tneeslt

4. rscapltlear

7. awpss

2. lrttaeaske

5. tcdeespein

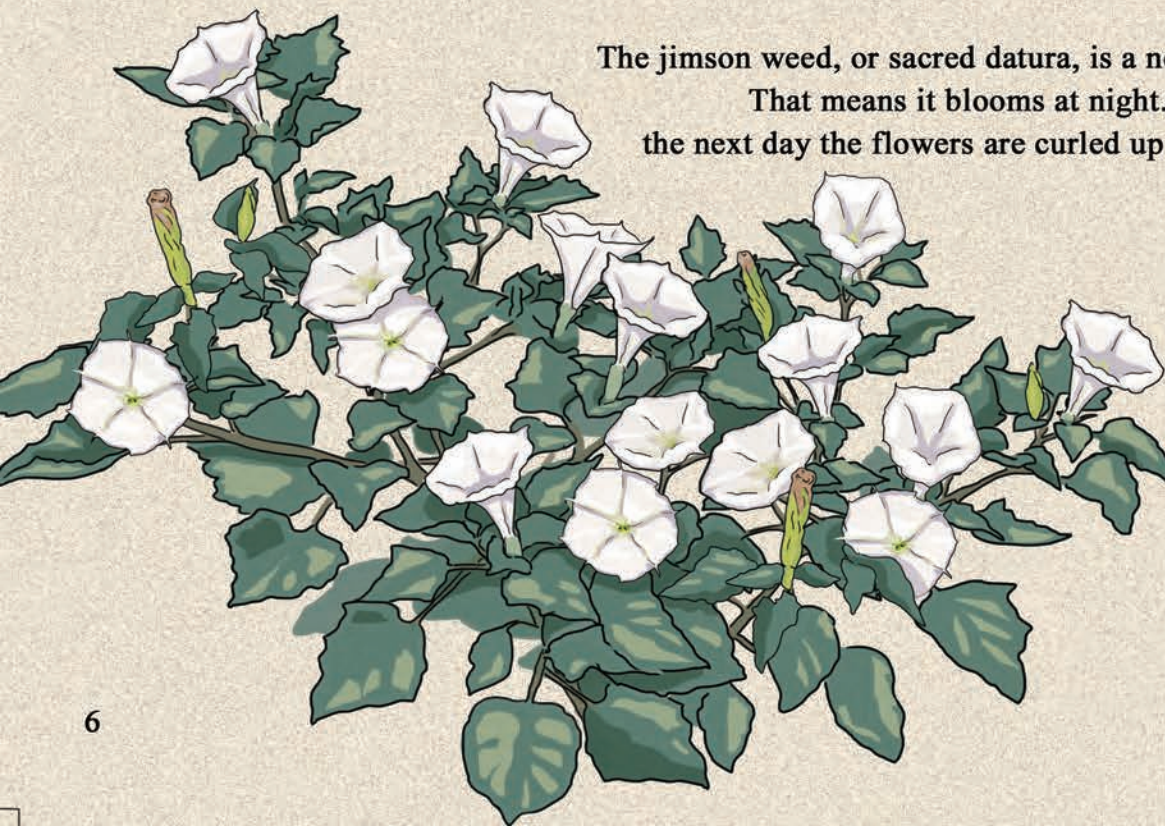
8. der nast

3. ocrniops

6. ebes

9. rseadc adtuar

The jimson weed, or sacred datura, is a nocturnal plant. That means it blooms at night. By lunchtime the next day the flowers are curled up again to sleep.



Words you are looking for:
sacred datura,
centipedes,
nettles,
scorpion, caterpillars,
bees, rattlesnake,
wasps, red ants,

CAMPING BASICS

tell me a scary story!

Camping Basics - How to make a s'more:

You will need:

- _one or more adults to build the fire, and tell you a scary story while you eat your treats
- _long metal skewers so you don't burn your hands or clothes
- _graham crackers
- _milk chocolate bars
- _marshmallows

1 Roast one large marshmallow slowly over a campfire.

Some people like their marshmallow just browned, others like them burned!

2 Place half a milk chocolate bar on the honey graham and then put the roasted marshmallow in the middle. Top with the other graham half.

3 Now it is time for that story!



SKY INHABITANTS

stay up late to see these guys



Keep a journal and list, describe or draw things you see on Las Cienegas like the lesser long-nosed bat, or the kangaroo rat shown on this page. You can look them up in your books or on the internet when you get home.



NATURE JOURNAL

draw or describe what you see

Or you can place some of your stickers from the sticker page here
to create your own scene from Las Cienegas.

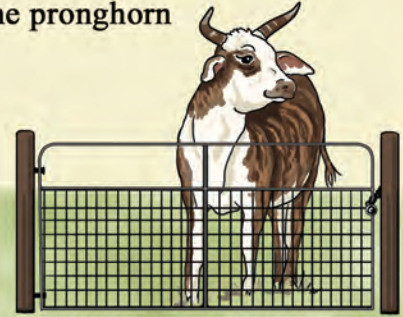
FOLLOWING WATER

protecting water on the NCA

Water can be hard to find in a desert grassland. Marshes, springs, and streams provide water for fish and wildlife on Las Cienegas. Cattle are well managed and kept away from these sensitive riparian areas to protect them. Wildlife fences keep cattle in the areas they belong and allow wildlife to pass through safely. Ranchers pump water for the cattle from wells into dirt stock ponds. Some of these stock ponds have now been made into wildlife ponds for frog, fish, and snakes. Cattle get water at ponds or troughs nearby. Solve the maze to help the pronghorn find his watering hole.



START



Leave the gates the way you find them.

Las Cienegas
National
Conservation Area



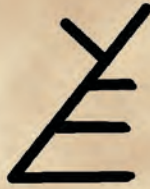
EMPIRE RANCH LIFE

design your own brand

The ranch went through several owners over time. Here are some of the brands associated with what we now know as the Empire Ranch.



Empire Land & Cattle Co.



Tomlinson brand



Various Donaldson brands



Vail & Risley brand

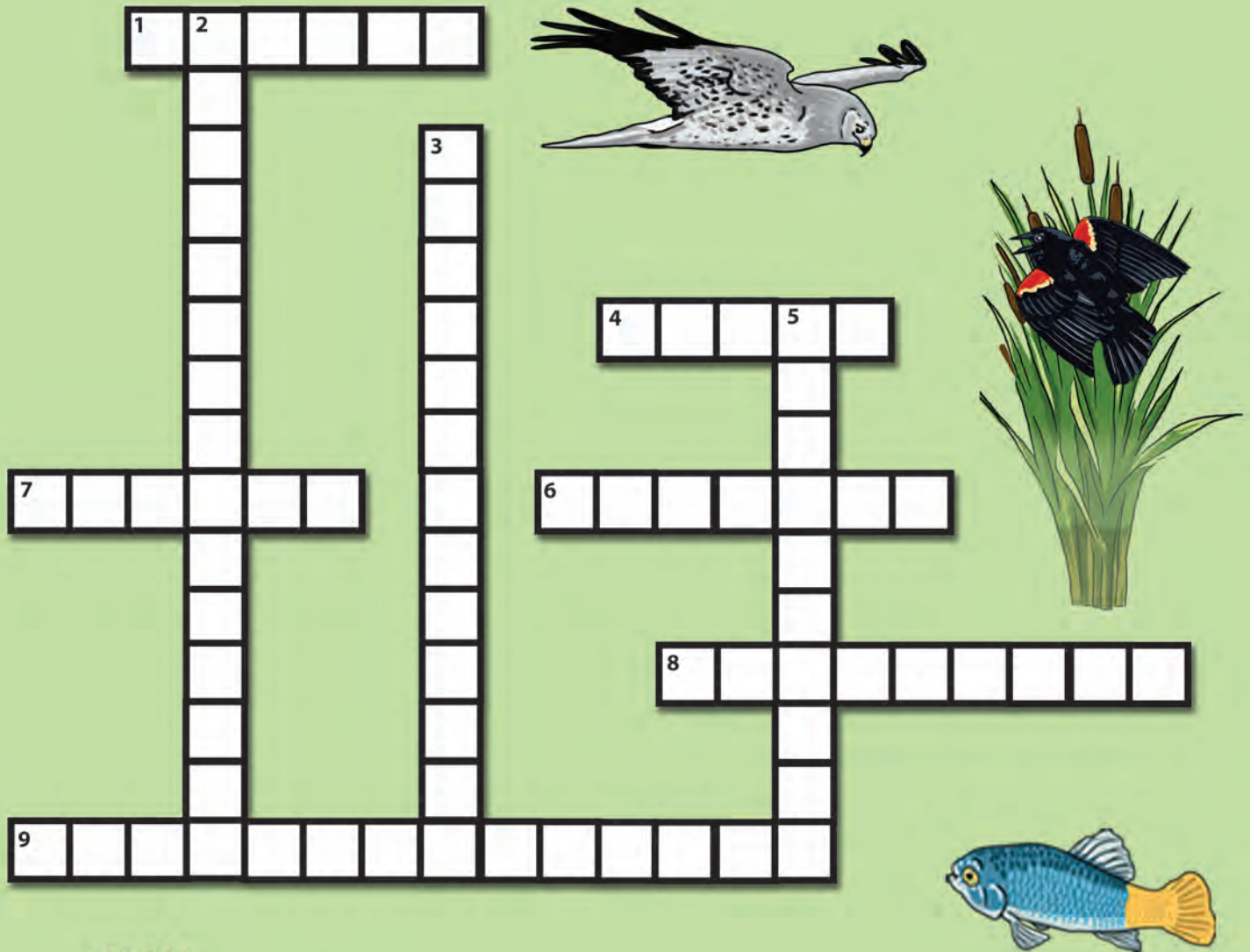


Boice brand - Chiricahua Cattle Company

Use the space below to design your own brand.
You can do a family brand or individual brands.



CROSSWORD PUZZLE



ACROSS

- 1 The ranch at Las Cienegas
- 4 Low wet land characterized by a growth of grasses, sedges, cattails and rushes
- 6 One recreational activity allowed on the National Conservation Area
- 7 One kind of wire used for fences
- 8 Insect seen over the marshes
- 9 These greet you when you arrive at the NCA (three words)

DOWN

- 2 One of the tree habitats in the NCA
- 3 National _____ Lands
- 5 Nickname for the mountains around Las Cienegas

ANSWERS: 1. Empire, 2. mesquite bosque, 3. Conservation, 4. marsh, 5. sky islands, 6. camping, 7. barbed, 8. dragonfly, 9. wide open spaces

YOU ARE NOT LOST *at Las Cienegas*

The sky islands around the National Conservation Area make it impossible to get lost on Las Cienegas. When you stop at the information kiosk just inside the entrance take a good look around the horizon. To the southeast, in front of you, are the Mustang Mountains. You don't have to know their name to recognize them. Just notice their distinctive profile. Take your pencil and trace the profile of each mountain.

Now, look back the way you came in and notice the Santa Rita Mountains to the west/southwest. Pay attention to how they are different from the Mustangs.



Just for comparison, now look back to the east and notice the Whetstone Mountains that are the sister mountains to the Mustangs. How are they different from the Mustangs?

Remember you are not lost. You are right here. Mom, dad, the tent or car might be lost but you are right here. Stay where you are. If you wander they cannot find you. Stay together, do not separate if you are with a friend or pet. Find a cozy waiting place. Not a hiding place. If you have a whistle with you, blow it three times, then wait for a while and blow it three times again.

The U.S. Search and Rescue Task Force recommends making an emergency survival kit (and practice using it):

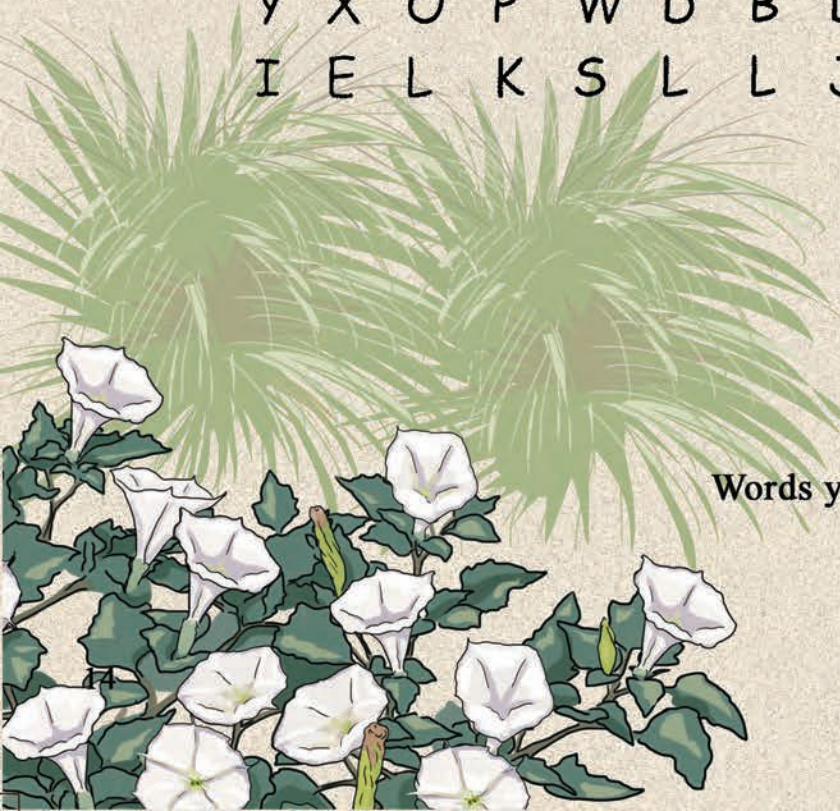
A plastic storage bag with:

- _ a high energy snack
- _ a whistle to use for calling for help
- _ a signal flag, made from an orange plastic garbage bag. You can always cut a face hole in the bag and wear it to keep dry and warm
- _ a shiny reflector for sending signals
- _ in the dry climate of Arizona you also need a water bottle filled with water.

PLANTS PUZZLE

circle the plants of the NCA

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



Words you are searching for:

DUCK WEED	OAK
SACRED DATURA	COTTONWOOD
COYOTE GOURDS	CATTAIL
SACATON	SEDGE
YERBA MANSA	DEER GRASS

ANIMAL ATHLETES

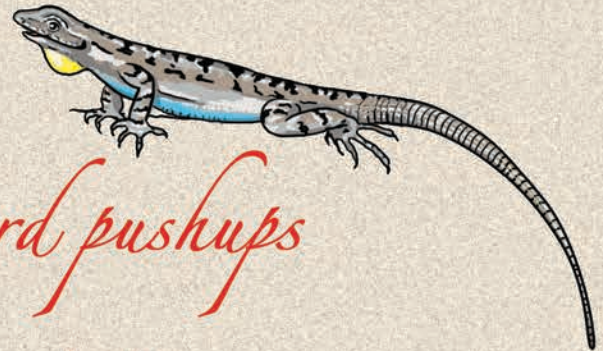
do what they do

The animals of Las Cienegas National Conservation Area are fun to imitate.
See how good you are at moving as they do.

Lizards like to hide in rock cracks and shadows of desert plants, but if you're lucky you may spot one basking in a sunny spot. Male lizards do "push-ups" to show off their bellies and defend their territory.



Find a clear, safe spot on the trail. How many pushups can you do in 20 seconds?



Lizard pushups

Hummingbird hand-swings



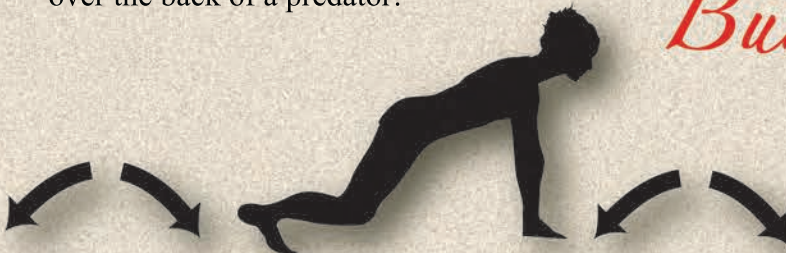
Look for hummingbirds feeding on the flowers of Las Cienegas. Hummingbirds flap their wings over 50 times per second! 50 wing-beats per second equals 1,500 wing-beats in 30 seconds.

How many times can you flap your "wings" in 30 seconds?



You may see many rabbits darting quickly across the grasslands. Rabbits can move very swiftly and use jumping as an escape method from predators. They can leap into the air over the back of a predator!

Bunny hops



Pretend you're being chased by a predator and hop like a rabbit down the trail.

TREAD LIGHTLY

and leave no trace

Can you fill in the vowels?
Lightfoot the Squirrel and TreadLightly!
remind you to always:



T_r_v_l R_sp_ns_bly

R_sp_ct th_ R_ghts of Oth_rs

E_d_c_te Y_urs_lf

Av__d S_ns_t_ve Ar__s

D_ Y__r P_rt

ANSWERS:
Travel Responsibly
Respect the Rights of Others
Educate Yourself
Avoid Sensitive Areas
Do Your Part

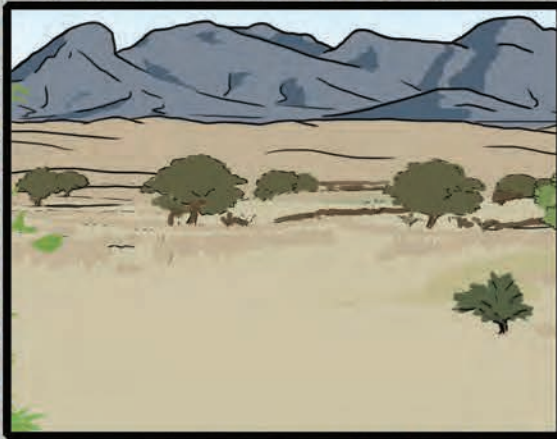
treadlightly!
ON LAND AND WATER



ANIMAL ADAPTATIONS

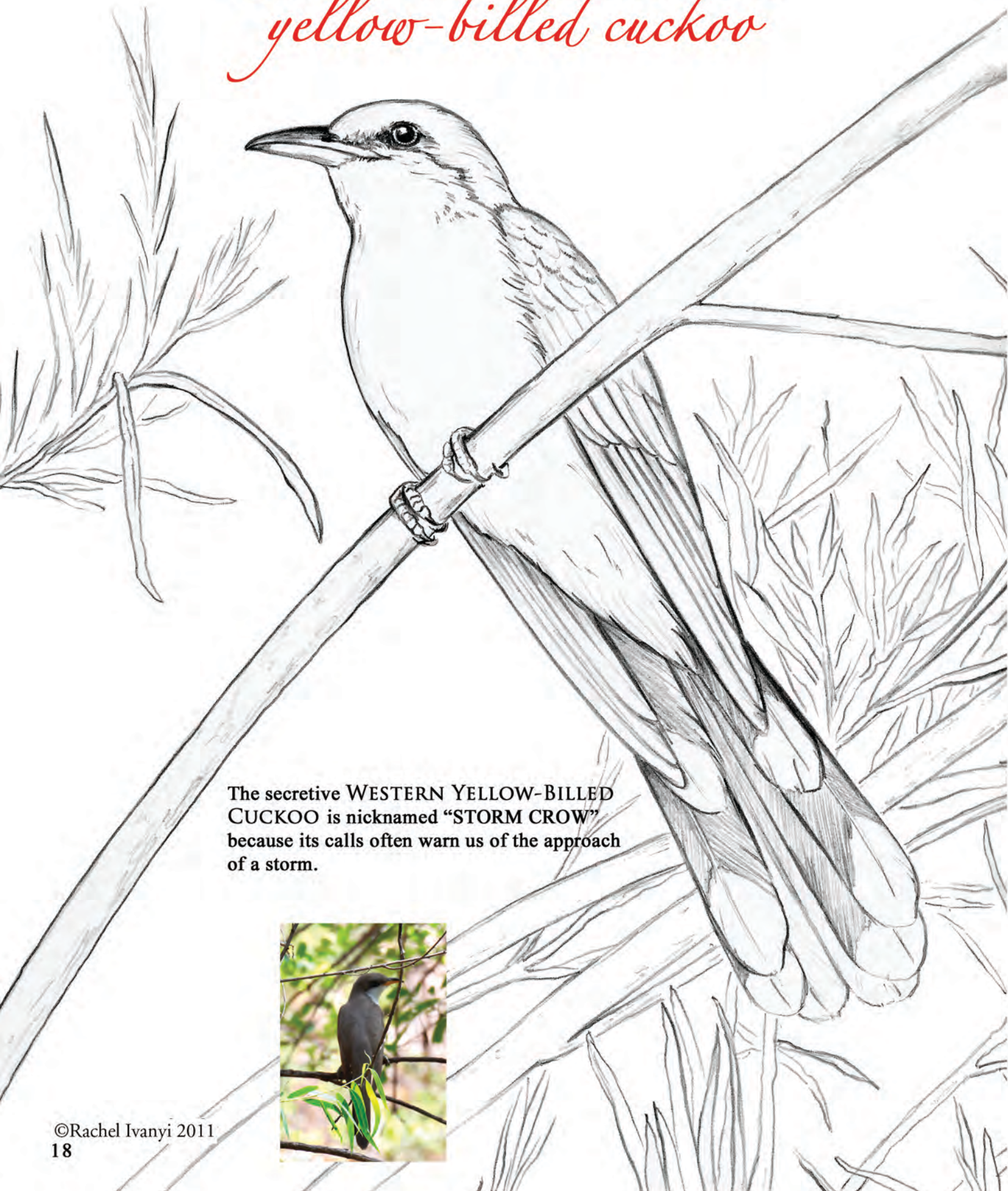
at Las Cienegas

Draw a line from the animal to the box that best describes the animal's habitat in Las Cienegas National Conservation Area.



COLORING PAGE

yellow-billed cuckoo



The secretive WESTERN YELLOW-BILLED CUCKOO is nicknamed "STORM CROW" because its calls often warn us of the approach of a storm.



MORE PLACES *to Play and Learn!*

on the **NATIONAL CONSERVATION LANDS**



★ **Vermilion Cliffs
National Monument**



★ **Grand Canyon-Parashant
National Monument**



★ **Agua Fria
National Monument**



★ **Sonoran Desert
National Monument**

**Gila Box Riparian
National
Conservation
Area**

★ **Ironwood Forest
National Monument**

**Las Cienegas
National
Conservation Area**

★
★
★
**San Pedro Riparian
National Conservation Area**





Junior Explorer Oath

I promise to help protect Las Cienegas National Conservation Area,
public lands, my community, and the Earth by being an active and
responsible steward of the environment.

I promise that I will not feed wild animals.

I promise to leave artifacts, and historic objects
as I found them for everyone to enjoy.

I promise to explore, learn about, and respect the world wherever I go.

I promise I will share what I learn with others.

Signed _____

Date _____

Las Cienegas National Conservation Area has many PARTNERS that help keep the area
maintained and preserved. The Bureau of Land Management's partners include
the Empire Ranch Foundation, Cienega Watershed Partnership,
Appleton-Whittell Research Ranch, Arizona Trail Association

