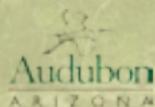


BRINGING BIRDS HOME

*A Guide to Enhancing Rivers,
Streams and Desert Washes
for Birds and Other Wildlife*



INTRODUCTION

Arizona contains amazingly diverse habitats, from mountains and moist canyons to grasslands and deserts. These habitats provide homes for many kinds of plants and animals. Arizona is world famous for the number of different native bird species found in the state. One of the spots where you can find the most bird species is within the rich vegetation along Arizona's rivers, creeks, wetlands, lakes, ponds, and washes. These spots are also known as riparian areas. This guide helps landowners and residents who live along riparian areas to conserve, enhance, and restore habitat to benefit birds. In so doing, you will also create habitat for Arizona's unique mammals, reptiles, amphibians, and insects.



Lush cottonwood and willow habitat in Aravaipa Creek, Kendall Kroesen

Your actions will help ensure Arizona's rivers, creeks, and washes remain healthy. Healthy riparian areas are important for many reasons. They sustain native vegetation and control flood events. They stabilize river banks, trap nutrients and soil, and keep water tables high. They also improve water quality, provide shade, and moderate temperatures. Last but not least, riparian areas are places that can be used and enjoyed by people.

Let's get started!

Areas with water such as this lush habitat along Aravaipa Creek are rare and precious in Arizona. They are excellent for recreation, can increase the value and beauty of a private property, and are worth protecting and enhancing.

What is a Riparian Area?

Riparian areas are spots that have water. They are home to plants and animals that need increased moisture. In Arizona, riparian areas range from mostly dry desert washes to flowing streams and rivers.



River with year-round water that supports large trees and many other plants.

Water channel



Water bubbling up from a spring can create green areas that are very productive for wildlife.

Lush cienega habitat, Matt Griffiths



Washes that run through the desert only have water after it rains, but these areas still support trees, such as mesquites, and are an oasis for animals and people.

Desert wash

Your Riparian Habitat—Why Do We Need It?

Cottonwoods, willows, and other plants that grow along rivers and streams help stabilize riverbanks. Without this vegetation, seasonal floods can cause severe erosion and result in loss of valley bottomland. Surprisingly, even though plants consume water, rivers that have native vegetation along their banks are actually more likely to have flowing water. Native vegetation along riverbanks slows and spreads floodwaters. This allows soil particles to settle in the floodplain instead of being washed downstream. In turn, this creates the perfect environment for more plants to grow. As the soil on the riverbanks and nearby areas becomes deeper it can hold more water. This water is then slowly released back into the river. The deeper the soil, the more water it can hold and the more slowly the soil releases the water. Washes, creeks, and rivers with healthy native plants growing on their banks have flowing water for longer periods of time and support higher water tables, which in turn keep the trees that stabilize the banks healthy.

Sycamore lined drainage in Ramsey Canyon, J. MacFarland



The sycamore trees along this creek in Ramsey Canyon use water to live, but in the long run they save water by slowing flow and shading the creek, which reduces evaporation.

RIPARIAN LAND ASSESSMENT

Riparian areas are very productive and important to the overall health and stability of your land. If you manage them well they will protect and enhance your property while providing food and shelter for many wildlife species. The first step is to assess your current conditions. How do you begin? Take a walk through your property. Take special note of the areas along the drainage itself and conditions near the drainage.

Signs of a Healthy Riparian Ecosystem

Habitat Score Sheet Part 1

- Does the wash/creek/river curve and meander? Yes No
- Do you see grasses that are knee high or taller? Yes No
- Do you see a variety of smaller plants within 10 feet outward from the drainage? Yes No
- Are there shrubs (bushes less than 6 feet tall) of different types present? Yes No
- Are there vines present climbing bushes and trees? Yes No
- Are there young trees present such as willow, cottonwood, and mesquite? Yes No
- Are there taller trees with spreading branches that provide shade? Yes No

For every 'Yes' add one point—enter total here: _____

Look for Potential Issues *Habitat Score Sheet Part 2*

- Has there been soil erosion caused by excessive trampling by livestock or horses? Yes No
- Has there been soil erosion caused by excessive vehicle use? Yes No
- Are there large patches of bare earth with cracked soil or large muddy basins? Yes No
- Are the riverbanks a steep vertical drop-off of several feet to the river channel below? Yes No
- Are there invasive plants present such as salt cedar or giant reed? Yes No
- Do trees look stressed with yellow leaves and/or bare branches? Yes No
- Is there a lack of grasses, flowering plants and/or bushes near the drainage? Yes No

For every 'No' add one point—enter total here: _____

Combine the two scores—overall total _____

What Did You Find?

Overall score 12–14:

It looks pretty good!

This booklet contains many ideas on what can you do keep your riparian habitat healthy or even improve it further for your enjoyment and the benefit of wildlife.

The upper San Pedro River has surface water most of the year and excellent stands of large cottonwood and willow trees.



Healthy cottonwood willow gallery forest along the upper San Pedro River, J. MacFarland

Overall score 9–11:

There are some opportunities to improve

Your system is mostly healthy overall, but with a little work and updated practices your wash/creek/stream can be even better for you and your family. There are many ideas in this booklet to help you accomplish a goal of a healthier riparian system.

This sycamore and oak-lined drainage has experienced some recent bank erosion after a storm. Placing rocks and tree branches along the bank will slow water and encourage soil to settle to help repair the bank.



Sycamore and oak lined drainage with some recent bank erosion, Jonathan Horst

Overall score 8 or lower:

Your wash/creek/river needs some work

Making some changes can really improve the overall health of your property and keep more moisture on your property, while reducing the chance of flooding. This booklet has many ideas on simple practices and procedures to help fix your riparian zone. If your score was way below eight there are resources in the back of this booklet with more comprehensive information to help you.

This stream has flowing water but excessive cattle use has damaged the banks and vegetation. Over time the lack of plants will cause the soil to wash away in high water events, causing severe damage over time.



Cow in river

TYPES OF RIPARIAN AREAS— RIPARIAN FORESTS

Many riparian areas in Arizona are called “Riparian Forests” because of the trees and vegetation found there. The following are several major types of Riparian Forests found in Arizona.

Cottonwood & Willow Gallery Forest *Elevation 100–4500 feet*

These areas typically have many layers of vegetation from top to bottom. Fremont cottonwood, Goodding willow, velvet ash, and Arizona walnut form the tall gallery forest along major rivers and creeks in Arizona. Underneath, look for shrubs such as seep willow, net-leaf hackberry, and Mexican elderberry. In the adjacent uplands you may have mesquites or desert.

Recommended Practice: Let understory vegetation grow freely. Graze these areas minimally, and only during non-growing seasons. Keep livestock out of the stream channel itself. Pole planting can be done to increase the number of trees—cut a branch from a living but dormant cottonwood or willow and plant it into the ground with half the branch above the surface. More detailed information is available at nrms.usda.gov.

Cottonwood Willow Gallery

Tall cottonwood trees mixed with willows line the San Pedro River and stabilize the banks to help prevent soil erosion during high river events.



Mesquite Bosque *Elevation 100–3500 feet*

These areas are found further away from the river, often on an upper terrace adjacent to cottonwood/willow gallery forests. A mature bosque has trees large enough to form a canopy over mid-story plants, such as: net-leaf hackberry, blue palo verde, Mexican elderberry, gray-thorn, and wolfberry. Flowering vines, shrubs, and grasses—including sacaton and saltgrass—may make up the understory.

Recommended Practice: Keep remaining large trees, including mesquites. Allow large mesquite, hackberry, and elderberry to grow.

These larger trees provide nest sites for cavity-nesting birds such as woodpeckers, wrens, and small owls. Whenever safe and possible, allow dead trees and logs to remain—they are a valuable resource for many species of wildlife.



Tall mesquite trees create a cool and shady area that allows grasses and wildflowers to grow below. These areas are beautiful and very important for many species of birds.

Mesquite Bosque

Sycamore-Lined Drainages *Elevation 3,000–6,000 feet*

These areas are found in Arizona's canyons along streams of higher elevation, often with boulders and evidence of frequent floods. Sycamore dominates this community, but Arizona walnut, cottonwood, and velvet ash are the other major trees you may find. Smaller trees include: Arizona cypress, Arizona alder, net-leaf hackberry, box elder, Texas mulberry, bigtooth maple, cottonwood, and chokecherry.

Recommended Practice: Consider installing livestock “drinkers”



Creeks, streams and drainages at higher elevations can be lined with Arizona sycamore, along with other trees. Besides being beautiful, these trees are great for wildlife and many birds nest in the natural cavities the trees create, including Elegant Trogons in SE Arizona.

Sycamore and oak lined healthy drainage with flow, Tucson Audubon

located outside the riparian zone. This will provide cattle with water but protect the riparian habitat. Vegetated stream banks are much more resistant to erosion than bare banks, so planting native vines, shrubs and grasses and allowing them to grow naturally (without mowing) is optimal. The collective force of all of their roots growing into the soil is the most effective bank stabilization available.

Desert Washes *Elevation 100–4,500 feet*

It takes a robust plant to grow in the arid landscape along desert washes. Desert willow, desert and net-leaf hackberry, blue palo verde, velvet mesquite, and ironwood all thrive here. Look in the understory for plants, including: seep willow, desert broom, burrobush, mimosa, cat-claw acacia, hackberry, and wolfberry. A desert wash may only flow when it rains, but these areas have more moisture than the desert around them and act as an oasis of food and shelter for wildlife.

Recommended Practice: Conserve and create dense riparian vegetation in washes. If your property has washes without vegetation, you can slow down water passage by installing check dams, or gabions. These are easily made with native materials (rocks and larger sticks). “Weave” the materials together in a broad “V” shape, with an overflow point in the middle. Gabions slow and trap water and soil during rain and floods. Seeds can then settle into these spots with deeper, moister soil, and before long you’ll have a wash with thriving vegetation.

Desert wash with healthy bank vegetation, Kendall Kroesen

Even though these washes are dry most of the year there is more moisture in the soil here than in the surrounding desert. The trees that edge this wash will protect the banks when it rains and the wash fills suddenly with water.



Marshes, Cienegas and Wetlands *Elevation 75–9500 feet*

Cienegas are grassy wetlands found near springs and perennial streams, usually in SE Arizona. Look for the characteristic sacaton grasses that are tall and grow in tight bunches. In Arizona, marshes are usually in broad valleys surrounded by distant mountains (unlike cienegas). They are formed in oxbows and backwaters of large rivers. These marshland communities are often temporary and can be removed by flooding or as the river channel moves with time. Look for plants such as cattail, sedges, or bulrushes. Wetlands can be present on the edges of lakes, ponds, and reservoirs, as well as irrigation ditches and canals.

Recommended Practice: Do all you can to keep water levels relatively constant, or at least change water levels slowly. Occasional managed burns can be a useful tool if you are equipped and take the proper precautions, and can help control cattails and improve wetland habitat for key species. It is important to leave some vegetation so species that depend on the area have habitat.



Areas with sitting or gently moving water, such as along this irrigation channel, can create marshes and wetlands. Even a small marsh like this one is valuable to wildlife, and healthy vegetation will slow the water and allow it to sink into your land.

Marsh alongside an irrigation channel meandering through a meadow; A. Subset, Flickr, CC

RECOMMENDED PRACTICES

Any vegetated area can be broken down into three basic areas:

- the **understory** right near the ground,
- the **mid-story** which is from three to five feet off the ground, and the
- **canopy**, consisting of tree limbs, vines, etc. above your head.

There are very simple activities that can be done to improve each of these areas that apply to all types of washes, creeks, streams, and rivers.



Understory Habitat Improvement Tips

The understory includes the grasses, wild flowers, and shrubs. This layer is very important for bank stabilization; and when this layer is robust, soil erosion is greatly reduced during flood events.

- Plant clumps of low-growing shrubs and forbs that are native to your region. Native plants are the best adapted to your property and are likely to be the most successful.
- Postpone mowing until after the bird nesting season (March–August) to avoid destroying or disturbing birds that nest on and close to the ground.
- Plant armored vegetation, like wolfberry and graythorn, to help protect nesting birds from predators.
- Once flowering plants lose their blossoms, give birds a chance to feed on the seed heads before removing them. Native plants that look “weedy” to us are an important food source for goldfinches and other birds.



Mid-story Habitat Improvement Tips

The mid-story can consist of tall shrubs, young trees, and vines climbing up the taller plants. This zone is very important for nesting birds; and many birds search for fruit, insects, and seeds here.

- Avoid pruning large shrubs and trees during bird nesting season (March–August).
- Plant native fruit-bearing plants, such as elderberry and hackberry.
- Create potential nest sites by leaving dead trees standing whenever possible and safe.
- Consider installing nest boxes for native birds, especially if your property doesn’t have many natural tree cavities. More information and free nest box plans, visit: tucsonaudubon.org/nestbox.



Canopy Habitat Improvement Tips

The canopy is the uppermost layer, formed by the crowns of trees. The canopy provides shade to the plants and soil below, which can greatly reduce evaporation in warm months.

- Do not remove large native trees whenever possible.
- Remove invasive tree species, such as salt cedar, tree of heaven, and Russian olive.
- Conduct necessary tree felling and pruning during the non-nesting season (September–February) to allow birds to finish nesting and raising young.
- Minimize pesticide and rodenticide use. With a healthy and robust system, the native birds and wildlife will take care of the pests for you.
- If young trees are not present, plant some to create large trees in the future.

Cover Your Pipes!

Open and uncapped vertical, standing pipes could be on your property for many reasons. They are sometimes used to mark a boundary, or are part of a fence or gate. They look innocuous to us, but these pipes are literally death traps for many birds and other wildlife. Cavity-nesting birds can perch on the edge and investigate what looks like a potential nesting site, and tumble down and into the pipe. They are often unable to escape and die slowly. It is very simple and economical to prevent future deaths by capping or covering these pipes. If it is a ventilation pipe, then cover it with metal screening. Sometimes the simplest solution is to remove the pipe entirely.

Death Pipe, National Forest Service

Vertical pipes left standing on your land can become death traps for birds and other wildlife. They peek in looking for a place to nest and can tumble down. The smooth surface inside makes climbing out impossible and they perish.



Capped Pipe, National Forest Service

This pipe has been covered with metal screening to prevent animals from entering. You can also use plastic caps, cement, or simply remove a standing pipe.



Wildlife Escape Ladders

One of the best ways to keep a creek, stream, or river channel healthy is to keep cattle and other livestock away. This prevents the animals from trampling the bank, damaging the soil structure, and eating young trees just starting to grow. When the channel is protected by fencing, though, it is necessary to provide another water source. Water tanks or troughs are a common solution. These water sources can be of great benefit to birds and wildlife in general, but can also present a lethal danger. Wildlife can fall into the water while trying to get a drink, and then cannot climb the smooth metal walls and drown. Installing an escape ladder is simple, inexpensive, and very effective at preventing these needless deaths. Many types of material can be used, including metal screening and wood. The slope into the tank should be no steeper than 45 degrees.

RECOMMENDED PRACTICES



Water tanks are a good alternative to cattle entering a riparian zone and trampling the banks. A ramp or stick in the tank gives wildlife an escape if they fall in.

Water tank with escape ladder for wildlife to escape if they fall in. J. MacFarland



Birds and other wildlife are drawn to tanks for the valuable water they provide. If an animal falls in they can swim to an escape ladder, such as this one made of metal screen, and climb to safety.

Wildlife escape ladder made of metal screen, Sage Grouse Initiative

CHARACTERISTIC SPECIES

Characteristic Species of Healthy Riparian Areas

Beaver

Beavers are a keystone species. This means their presence in nature greatly affects other wildlife in positive and important ways. In fact, the removal of beavers from their natural setting leads to a decrease in habitat quality. Beavers help purify and control water by building dams that filter silt from the water bodies in which they live. This increases water purity and decreases the need for filtration systems. Beaver dams can also slow flood waters, raise water tables, and control erosion. Fortunately for Arizona's rivers, efforts are underway to re-introduce beavers.



Beavers have a dramatic and positive impact on waterways where they live. The ponds created by their dams make for rich soil and lots of infiltration of water into your water table.

Beaver, Pete Toscano

Checkered Garter Snake

This lovely little snake is perfectly safe to humans and devours many pests, such as rodents. Their presence indicates a high quality riparian corridor with adjacent grassland or low elevation Madrean Oak habitat. Consider yourself lucky if you see one of these on your property.



Checkered Garter Snakes, along with other species of Arizona garter snakes, are small, non-venomous, and will eat many pests on your property. They are drawn to water and healthy riparian zones, and will sometimes relax in pools of water with only their heads above the surface.

Checkered Garter Snake,
Squammatologist

Yellow-billed Cuckoo

Cottonwood and willow-lined rivers and streams are some of the most important habitat for this bird. Recent work has also shown oak-lined, higher-elevation creeks and drainages to be suitable nesting areas in SE Arizona. Cuckoos are usually detected by a knocking “ku-kuku-ku-ku-ku-kddwol” song. Although large (12 inches), Cuckoos are

very secretive and good at hiding from curious humans. They are rapidly declining in the American west and benefit from lush vegetation, which supports the large insects they feed their young in large quantities.

Yellow-billed Cuckoo,
Bill Tractlar

Yellow-billed Cuckoo populations have dramatically declined in the western half of the US due to loss of suitable riparian habitat. They do respond very well to areas that have been restored and will nest in replanted areas of cottonwood and willow along rivers and streams.



Lucy's Warbler

This small warbler has a loud and bright song and is a lovely pearly gray with a black eye. Lucy's Warblers are characteristic spring birds of low elevation riparian bosques with thick vegetation, upland mesquite thickets, desert grassland, and xeric wash habitat with mesquite. One of only two cavity-nesting warblers in North America, the Lucy's Warbler nests in woodpecker holes or curling mesquite bark. This species will also use tiny nest boxes. Information on building or buying nest boxes is available at tucsonaudubon.org/nestbox.

Lucy's Warbler,
David Bygott

Lucy's Warblers are one of the first spring migrants to return each year. Listen for their rapid, three-stage song while they forage for tiny insects in native mesquites.



Western Red Bat

The Western Red Bat, named for its lovely red fur, is surely one of the most beautiful of all bat species. They are solitary animals that prefer riparian areas dominated by walnuts, oaks, willows, cottonwoods, and sycamores, where they roost in these broad-leaved trees. They roost only in tree foliage and will consume a tremendous amount of insects every night. An installed bat house can attract other species of bat, which will also devour many insects. For more information, visit: batconservation.org.



Rivers, streams, and washes are very important for bats, such as this lovely Western Red Bat. All bats are attracted to such areas and will eat many insects every night.

Western Red Bat,
Sonny Mencher

Abert's Towhee

This handsome brown bird, with black facial markings that look like a bandit mask, is found in lush desert washes in southern Arizona. These washes may not run frequently, but what rain flow they do collect supports vegetation and many wildlife species in turn. This bird's presence in a wash indicates high-quality habitat. Abert's Towhees are often seen digging around in the leaf litter looking for food in family groups.



Often seen in pairs, Abert's Towhees, like all towhees, spend much of their time on the ground digging for insects. Leaving dead leaves and brush on the ground makes an area very attractive to them.

Abert's Towhee, **CAVICK**

Gila Topminnow

Historically, topminnows were the most abundant fish species in the entire Gila River basin, occupying river systems from western New Mexico to southern and western Arizona. The females are larger and silver in color and give birth to live young. The males are smaller and darker in color, with the most dominate males being jet-black. They are usually found in warm, shallow water; congregating in areas of moderate current, below riffles, and along the margins of flowing streams in accumulated algae mats.



Native fishes, such as the Gila Topminnow, are precious and rare in Arizona. Nearly all of the 35 native fish species in Arizona are of high conservation concern, and efforts are being made to reestablish populations in waterways.

Gila Topminnow,
Brian Gratwicke

Chiricahua Leopard Frog

The Chiricahua Leopard Frog has historically been found in the mountains and valleys along the Mogollon Rim, east of Camp Verde and the Verde River; but also in southeastern Arizona, south of the Gila River, from the Baboquivari Mountains east to Peloncillo Mountains. Although still fairly well distributed through this range, the species has disappeared from about 88% of its historical localities in Arizona. Its decline is largely due to disease and habitat loss, and there are many projects underway to create suitable ponds to aid in their recovery.

Chiricahua Leopard Frog:
Jim Rorabaugh, USFWS

These native frogs require permanent water for their young to grow and feed. Their "song" is often described as a snoring sound.



Yellow-breasted Chat

This large warbler is very striking with its bright yellow throat and chest, and bold white "spectacles" on its face. As impressive as it looks, this bird is more often heard than seen and makes many different sounds, including knocks and whoops. This is a widespread species found in thick vegetation in many types of riparian habitat.

Yellow-breasted Chat,
Bob Devlin

With a diverse range of different sounds they can make, the song of a male Yellow-breasted Chat can be complex and individualistic.



Song Sparrow

This sparrow has reddish-brown plumage with dark streaking, and a gray face with brown stripes. They are wide spread throughout Arizona and present year round. Song Sparrows prefer stream edges in thick underbrush, an indicator of running water and very high quality riparian habitat.



Scientific investigations have demonstrated that Song Sparrow presence is an indication of water quality as well as robust vegetation. They are not found along streamsides that have high levels of heavy metals.

Song Sparrow, [mizmac](#)

Bell's Vireo

This songbird is smaller than a sparrow and is gray all over with faint white “spectacles” on its face. With a loud song that sounds like questioning phrases repeated over and over, the Bell's Vireo is rarely seen but often heard in the thickest riparian mid-story. They especially favor low elevation riparian habitat, upland mesquite thickets, and xeric wash habitat with mesquite.



Bell's Vireos provide an iconic sound of summer in riparian areas with their repetitive song loudly sung by the male. He will sing even while sitting on the nest.

Bell's Vireo, [Lombenson76](#)

Lesser Goldfinch

With a lovely, upbeat song, this lemon-yellow finch has distinctive white patches in its dark wings that are visible when it flies. This bird is very widespread and will use many types of habitats at many different elevations. They especially love to eat seeds from flowers and weeds that have already bloomed, so delaying mowing or “dead heading” can be very beneficial for them.



Lesser Goldfinches do well in all types of riparian habitat. They also use urban habitat to take advantage of food sources from landscaped yards and thistle seed feeders.

Lesser Goldfinch,
Carla Kishinami

Bewick's Wren

Often seen creeping up tree trunks or in piles of fallen limbs, this handsome wren is brown all over with a bold white eyebrow and long tail. They forage in brush piles and in leaf litter—leaving such cover on the ground is very helpful for them. Listen for their loud and sudden song that brings to mind a rotary phone after dialing nine.

Bewick's Wren, [mizmac](#)

Like all wrens, Bewick's Wrens spend much of their time searching in leaf litter or under tree bark for small insects. They are free, all-natural pest control.



Summer Tanager

The male Summer Tanager is a shockingly-vivid red all over its body, while the female is a more subtle, dusky yellow all over. They spend most of their time high up in cottonwood and willow trees, and are wide spread throughout Arizona in high-quality stream habitat, as well along lush desert washes.

Male Summer Tanagers are North America's only all-red birds, and they are a very bright shade of red. They are surprisingly good at hiding in the tree tops, so listen for their two-part chu-chup call in the spring and summer.

Summer Tanager,
Rick Derevan

CONCLUSION

Arizonans know that water is a precious resource for both people and wildlife. The areas around washes, creeks, streams, and rivers serve an important function in the larger landscape; and when they are healthy protect our properties and provide vital resources for wildlife.



Audubon's Important Bird Areas Program is a partnership of Audubon Arizona and Tucson Audubon, and is committed to identifying areas most important for native birds. Sometimes these areas are large and grand, but more often birds find refuge in small patches of good habitat that are being protected and enhanced by someone like you.

We encourage you to check with your area Audubon chapter and become involved with a local riparian project. Caring for your own wildlife habitat that you manage is a critical link in the conservation of riparian habitat statewide. Birds know no boundaries; and, especially during migration, a reach of healthy, dense, riparian vegetation is a welcome resource for species like the Wilson's Warbler, which may be on a cross-continental trek. We hope this guide aids in making your oasis hospitable for that warbler while also providing healthy landscape for the benefit of your family and community.

More Resources for Improving Your Riparian Property

The Natural Resources Conservation Service (NRCS), an agency of the U.S. Department of Agriculture, provides many voluntary programs to assist private landowners with wildlife habitat conservation projects. The U.S. Forest Service, Fish and Wildlife Service, Arizona State Land Department, and Arizona Game and Fish Department also have programs to assist landowners, providing technical advice, best practices projects, habitat restoration, protection, and conservation easements. Key programs are described below.

Wildlife Habitat Incentives Program is known as the “WHIP” program within the federal Farm Bill. WHIP is a popular program that helps landowners through cost-sharing and technical advice to successfully implement a wildlife habitat project during an agreed upon 5-, 10- or 15-year contract period. For more information visit: nrcs.usda.gov/programs To find the application online go to: sc.egov.usda.gov.

Conservation Reserve Program (CRP) is run through the Commodity Credit Corporation of the Farm Service Agency of U.S. Department of Agriculture. For more information and to find your local county contact visit: fsa.usda.gov/az/AZ.htm

Healthy Forests Reserve Program (HFRP) is an NRCS program for private landowners who own forest resources who wish to: 1) restore or enhance their forest ecosystems to promote recovery of threatened and endangered species; 2) improve biodiversity; and 3) enhance carbon sequestration. For more information visit: nrcs.usda.gov/programs.

Wetlands Reserve Program (WRP) is an NRCS program for private landowners that provides technical and financial assistance to restore, enhance, or protect wetlands on their property. This includes protecting riparian habitat where it links with protected wetlands. For more information visit: nrcs.usda.gov/programs.

USDA Forest Service Forest Legacy Program (FLP) is a federal program administered by the U.S. Forest Service that may be applicable to conserving riparian forests in Arizona. The program sets priority areas within the state for forest conservation projects, where forests are threatened by conversion to non-forest uses. For information for the southwest region, including Arizona, visit: fs.fed.us/spf/coop/library/flp_state_coord.pdf.

Forestland Enhancement Program (FLEP) is a federally-funded (2002 Farm Bill) program to the U.S. Forest Service and is administered by the Arizona State Land Department, State Forestry Program. For information on this program visit: southwestareagrants.org/az/flep.php.

U.S. Fish and Wildlife Service Partners for Fish and Wildlife Program is a federal program administered by the U.S. Fish and Wildlife Service to assist private landowners to protect, enhance, or restore wildlife habitat for federally-listed endangered or threatened species. For information on Arizona's program visit: fws.gov/southwest/es/arizonaes/Partners.htm.

Arizona Game and Fish Department Landowner Incentive Program (LIP) is a state program administered by Arizona Game and Fish and funded by the U.S. Fish and Wildlife Service. Technical assistance and funding is available to private landowners to develop, plan, and conduct habitat projects to conserve, enhance, or restore habitat for an “at-risk” species. For information on this program visit: gf.state.az.us/outdoor_recreation/landowner_lip.shtml.

Tribal Landowner Incentive Program (TLIP) is a federally-administered program by the U.S. Fish and Wildlife Service. Technical assistance and funding are available to federally-recognized Native American tribes to develop, plan and, conduct projects to conserve, enhance, or restore habitat for federally-listed, proposed, or candidate species; or other at-risk species on tribal lands. For information on this program visit: fws.gov/grants/tribal.html.



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