



Photo: Marti Niman

### Bees please

They don't make honey, but New Mexico's native bees are hard at work bringing food and color into our lives.

Please see Page 11.

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Ugly and smelly, or cute and endearing?

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Gila country gem offers birding, hiking, fishing and more.

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Hunters, anglers put their money where wildlife lives.

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### Mean and green

Plants get tough when they don't want to be lunch.

A publication devoted to the enjoyment and appreciation of New Mexico wildlife.



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## More fish, more fun



### Revitalized N.M. hatcheries see bright future

By Dan Williams

After being plagued with whirling disease and drought for a decade, New Mexico's fish hatcheries appear to be turning the corner and entering an exciting new era. Renovated raceways, a new warmwater hatchery and a new approach to raising rainbow trout have brought new fish and new hope to a system that stocks almost 16 million fish a year.

"We had some setbacks, but we've been able to recover and actually make improvements," Department Fisheries Chief Mike Sloane said. "By next year, our hatcheries will be back to near full production, an impressive feat when you consider only a few years ago four of our six hatcheries were infected with whirling disease."

The battle against whirling disease is not over; the parasite is present in several state waters. However, the Department has learned to keep it out of its hatcheries by covering raceways and carefully monitoring water sources. Instead of drawing water from rivers and streams, all hatcheries now use only spring or well water. Covers keep predators from spreading the disease into runways, and hatchery employees abide by strict contamination-prevention practices.

That's good news for trout anglers who enjoy catching the more than 1 million catchable-sized fish stocked in state waters every year. And that number will increase as the trout hatcheries put finishing touches on renovations and the new warmwater hatchery at Santa Rosa gets up to speed.



Photos: Dan Williams

**With completion of a new warmwater hatchery, the Department of Game and Fish is able to raise and stock fingerling largemouth bass, above, and trout, below, in the state's lakes and streams. The Department annually stocks 16 million fish of all sizes in state waters.**

"This is an exciting time for us," Sloane said. "We've spent about \$10 million to get our hatcheries back to the point where we meet our goals and to get a warmwater hatchery going. In the near future, the state's anglers are going to see it start to pay off."

... continued on Page 14





# Invasive species control now state law

Gov. Bill Richardson’s signing of the Aquatic Invasive Species Control Act now allows the Department of Game and Fish and its partners to take actions to protect New Mexico waters from negative impacts of aquatic invasive species.

Passed unanimously by the House and Senate, House Bill 467 is intended to help keep invasive species such as zebra and quagga mussels out of state waters. An emergency clause mandates that the act take effect immediately.

The New Mexico Department of Game and Fish is urging everyone who uses the state’s lakes and streams to recognize the importance of the act and help keep invasive species out of state waters. Although zebra and quagga mussels have not been found in New Mexico, the mussels are in all bordering states except Texas.

First discovered in the Great Lakes in the 1980s, fingernail-sized zebra and quagga mussels have spread to waters in more than 25 states by attaching themselves to boat hulls, motors and other items transported from water to water. Millions of dollars are spent annually to control and monitor the invasive species, which clog water pipes, foul boat motors and kill native plants and wildlife by removing their food supplies. Once they contaminate

open waters, they can’t be removed. The Aquatic Invasive Species Control Act gives officers with the Department of Game and Fish and the State Parks Division authority to inspect and require decontamination of vessels, trailers or other equipment suspected of being contaminated with invasive species before entering state waters. The act requires that all boats, personal watercraft and equipment used in waters infested with invasive species be certified as decontaminated before entering New Mexico waters.

Western waters contaminated with zebra and quagga mussels include:

- Colorado: Lake Pueblo, Grand Lake, Jumbo Reservoir, lower Colorado River between Lake Mead and the Gulf of Mexico, Lake Granby, Shadow Mountain Reservoir, Tarryall Reservoir, Willow Creek Reservoir.
- Arizona: Lake Mead, Lake Havasu, Lake Mohave, Lake Pleasant, suspected but not confirmed in Lake Powell.
- Utah: Electric Lake, Red Fleet Reservoir.
- Nevada: Lake Mead, Lake Mohave.
- Oklahoma: Arkansas River, Verdigris River, Oologah Lake, Lynn Lane Reservoir, Kaw Lake, Sequoia National Wildlife Refuge, Grand Lake O’ the Cherokees,

- Sooner Lake, Skiatook Lake, Middle Bird Creek, Fort Cobb Reservoir, Foss Reservoir.
- California: Lake Havasu, all Southern California inland waters in Orange, Riverside, San Diego, Imperial and San Bernardino counties.

Boaters can help prevent alien mussels from invading New Mexico by following these simple steps:

- Remove visible mud, plants, fish or other debris before transporting equipment.
- Eliminate all water from your boat and equipment before transporting it anywhere.
- Clean and dry everything that came in contact with water, including boats, trailers, live wells, bait buckets, equipment, clothing, waders, dogs, etc.
- Never release plants, fish or other animals into a body of water unless they came from that same body of water.

For more information about aquatic invasive species, please visit the Department of Game and Fish Web site, [www.wildlife.state.nm.us](http://www.wildlife.state.nm.us), or these other Web sites: <http://100thmeridian.org/>, [www.fws.gov/answest](http://www.fws.gov/answest), [www.protectyourwaters.net](http://www.protectyourwaters.net), or <http://invasivespecies.nbii.gov/index.html>.

## 10 great reasons to buy a 2009-10 fishing license

Fishing season is well under way in New Mexico, and in this year of economic troubles, there are plenty of great reasons to buy your new fishing license at more than 200 vendors across the Land of Enchantment, and at Department of Game and Fish offices in Albuquerque, Santa Fe, Raton, Roswell and Las Cruces.

Here are 10 of them:

- 1. It’s a cheap date:** A resident annual fishing license is \$25, probably the best recreation bargain in the state because it is valid 365 days a year.
- 2. Improves wildlife habitat:** Combined with the \$4 Habitat Management and Access fee, required of all anglers statewide, your license fee is less than 8 cents a day.
- 3. It’s healthy fun:** Eating fish provides you with healthful Omega 3 fatty acids.
- 4. Stay close to home:** Most New Mexicans don’t have to travel far to go fishing, so you save gas money. Consider taking advantage of the Summer Catfish stocking program, which brings channel catfish to communities from Jal to Gallup.
- 5. No tuition fees:** If you don’t know how to fish, the Department, some municipalities, and non-governmental organizations will teach you how at free clinics across the state.
- 6. Fights nature deficit disorder:** As you become a devoted angler you will gain an appreciation for the watershed that supports your existence and



Photo: Dan Williams

### Limits for everyone! It doesn’t get much better than this.

- rediscover those childhood memories of butterflies, birdsongs and time spent outdoors with your family and close friends.
- 7. Lots of opportunity:** The same annual license you buy for your summer vacation in the mountains is valid during the winter when the Department of Game and Fish plants rainbow trout in winter waters from Bernalillo to Las Cruces.
  - 8. Stimulates local economies:** Anglers in New Mexico spent an estimated \$295,874,000 in 2006. More than \$125 million was spent on trip-related expenses, and more than \$50 million was spent on food and lodging.
  - 9. Cool gear:** Barbie, Batman and SpongeBob all offer their own lines of

very stylish equipment.

- 10. There’s no tax on sunshine:** Get out and enjoy it, but don’t forget your fishing license. If it’s been a while since you’ve been fishing, the Department of Game and Fish invites you to visit the New Mexico Magazine web site, [www.nmmagazine.com](http://www.nmmagazine.com), to view a short piece featuring last year’s Free Fishing Day free fishing clinic at Eagle Rock Lake near Questa. The video is accessible through the CyberPlaza. Look for the Game and Fish video named “Kids.”

The New Mexico Magazine web site also has a Game and Fish video about the state’s efforts to save the Rio Grande cutthroat from extinction. This video is called “Cutthroat,” and shows the annual spawning efforts conducted at the Seven Springs Hatchery in the Jemez Mountains.



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# South Valley Academy wins state archery title

By Dan Williams

ALBUQUERQUE -- Albuquerque's South Valley Academy may be one of New Mexico's smallest high schools, but when it comes to archery, the Dragons are big-league competitors.

This spring, the Dragons finished first through sixth in individual competition and easily won the team title in New Mexico's first National Archery in the Schools State Tournament. Competing against much larger schools, the Dragons scored an impressive 3,134 points to win the championship, outdistancing second-place Raton Middle School by 509 points. Las Cruces High School finished third.

"The school's success says a lot about the National Archery in the Schools program, and especially the kids themselves," said Brian Guzman, program coordinator for the New Mexico Department of Game and Fish. The agency brought the program to 15 high schools and middle schools in January 2008, providing training for coaches and splitting the equipment costs with schools. There currently is a waiting list of at least 12 more schools wanting to get in on the fun.

The students at South Valley Academy enjoyed learning a new skill and the success that followed, coach Robert Sierra said.

"We practiced for an hour after school every Tuesday and Friday, and they really had a good time," Sierra said. "Archery becomes addictive because it's a sport that anyone can master quickly. You don't have to be the biggest or the fastest. All it takes is to master the form and you can be a master archer."

Eleventh-grader Joshua Martinez was the individual master in the boys division of the state tournament, scoring 279 points out of a possible 300. His ninth-grade teammates were close behind. Fabian Gonzales scored 276, Nicholas Mier 273, and Gabriel Ochoa 263. Tenth-graders Juan Barragan and Daniel Cano rounded out the top six, each scoring 256. Other Dragons finishing among the top 30 boys were Lorenzo Escarega, 10th; Ivan Comparan, 12th; Ralph Gonzales, 13th; Cesar Balon, 14th; Hilych Armenta, 16th; Sergio Roman, 19th; and Cristian Mazarieques, 27th.

The Dragon girls team made it a clean sweep, with all five team members finishing at the top. Ninth-grader Daniella Ortega won the individual championship with a score of 272. She was followed by 10th-grader Samantha Martinez, 258; ninth-grader Lurdes Ortiz, 256; 10th-grader Jaylene Fink, 249; and 11th-grader Anissa Lavers, 247.

This year's New Mexico tournament was conducted as a "virtual" tournament in which the actual competition was conducted at individual schools, and then scores were submitted to tournament coordinators. Guzman said he hopes next year's tournament will be a live event with schools competing in one location.

Jeannette Olivas-Gonzales, a school social worker who helped bring the National Archery in the Schools program to South Valley Academy, said the program fit right in with the school's mission to help mostly underprivileged students succeed academically. Most of the students in the lower-valley school are from low-income Hispanic families, many of them recent immigrants.

"Archery gives the kids a chance to succeed in an area outside the classroom, and that's important," Olivas-Gonzales said. "The students had fun and had an awesome performance in the tournament. Being the best at something really boosted their self-esteem."



NATIONAL ARCHERY  
IN THE  
SCHOOLS PROGRAM



Photo: Clint Henson

**More than 1,000 students in schools across New Mexico participated in the National Archery in the Schools program in its first year in the state. Above, students from Raton Middle School practice in their gym. The Raton team finished second in the state tournament behind Albuquerque's South Valley Academy -- a high school.**

The Department of Game and Fish spent approximately \$20,000 on equipment to get the National Archery in the Schools program off the ground in New Mexico. It costs about \$3,000 to outfit a school or organization with bows, targets, backstops and other equipment and get a program started. The Department splits the initial cost with participants and provides training for archery instructors. Many schools incorporate the program into existing physical education classes.

Sponsors included the Northern New Mexico Chapter of Safari Club International, and Juandell Eidson of the Eidson Ranch, who donated an antelope hunting authorization for the promotion of youth shooting sports.

Schools or organizations interested in participating in the National Archery in the Schools program can find more information on the Department Web site, [www.wildlife.state.nm.us](http://www.wildlife.state.nm.us), or by contacting Brian Guzman, (505) 231-4375 or [brian.guzman@state.nm.us](mailto:brian.guzman@state.nm.us).

## Get involved

Many organizations in New Mexico are dedicated to wildlife conservation, habitat improvement and wildlife-related recreation. Whether you are interested in birding, wildlife watching, hunting, fishing or trapping, chances are there is an outfit you'll deem worth supporting. Here are some of them:

**New Mexico Chapter, Wild Sheep Foundation:** Formerly the Foundation for North American Wild Sheep, the organization's goal is "Putting more sheep on the mountain." Members work with the Department of Game and Fish to increase populations of desert and Rocky Mountain bighorn sheep in New Mexico. Information: Lanny Rominger, (505) 821-5064.

**Ducks Unlimited, New Mexico:** More than 1,500 members support the organization's mission to restore and manage wetlands and habitats for North American waterfowl. Cindy Wolfe, [cjwolfe@gilanet.com](mailto:cjwolfe@gilanet.com), (575) 854-3365.

**New Mexico Wildlife Federation:** Founded by Aldo Leopold in 1914, the organization is a strong lobbyist in the New Mexico Legislature, "dedicated to protecting New Mexico's wildlife, habitat and outdoor way of life." (505) 299-5404, [www.nmwildlife.org](http://www.nmwildlife.org).

**Audubon New Mexico:** Devoted to the protection, preservation and enjoyment of the environment, with a particular emphasis on birds. The organization has chapters statewide, with headquarters at the Randall Davey Audubon Center in Santa Fe. (505) 983-4609, <http://nm.audubon.org>.

**Rocky Mountain Elk Foundation:** A large national organization dedicated to ensuring the future of elk, other wildlife and their habitat. The organization actively supports efforts to protect and enhance elk country, conservation education and to restore elk herds. New Mexico information: (505) 454-9390. National website: [www.rmef.org](http://www.rmef.org).

**Southwest Environmental Center:** Works to reverse the accelerating loss of species worldwide by protecting and restoring native wildlife and their habitats in the Southwestern borderlands, through grassroots advocacy, public education and on-the-ground restoration projects. (575) 522-5552, [www.wildmesquite.org](http://www.wildmesquite.org).

**Southwest Consolidated Sportsmen:** An organization representing at least 15 sporting and conservation groups of diverse interests. The group's three primary objectives are to "disseminate wildlife and habitat information, participate in habitat maintenance projects, and review and comment on proposals involving wildlife habitat." (575) 526-5056.

**Trout Unlimited, New Mexico:** Dedicated to the restoration, protection and conservation of all coldwater fisheries, their tributaries and watersheds and the fish that inhabit them. (505) 470-4878, [www.newmexicotu.org](http://www.newmexicotu.org).

**New Mexico Wild Turkey Federation:** Supports scientific wildlife management on public, private and corporate lands as well as wild turkey hunting as a traditional North American sport. (505) 869-3837, [www.nwtf.org](http://www.nwtf.org).

**New Mexico Trout:** Dedicated to the preservation and enhancement of trout fishing in New Mexico's waters through restoration of riparian habitats and through the education of the public about trout fishing and the value of trout habitats. [newmexicotrout@gmail.com](mailto:newmexicotrout@gmail.com), [www.newmexicotrout.org](http://www.newmexicotrout.org).

**Southwest Muskie Maniacs:** This rapidly growing club was formed as the 59th chapter of Muskies Inc. in 2008 by a group of anglers interested in catching tiger muskies stocked in Bluewater and Quemado lakes, and northern pike in northern New Mexico waters. Information: Michael Bishop, [mb\\_tigers@yahoo.com](mailto:mb_tigers@yahoo.com); or Jared Blaschke at [jbfshn@comcast.net](mailto:jbfshn@comcast.net).

**Safari Club International:** Promotes wildlife conservation worldwide while protecting the hunting heritage and supporting numerous education and humanitarian projects. Southern New Mexico Chapter: LTC R.A. "Pancho" Maples, [pancho1@plateautel.net](mailto:pancho1@plateautel.net). Northern New Mexico Chapter: Brian Payne, [b\\_payne10@msn.com](mailto:b_payne10@msn.com).





A person wearing a white hoodie, dark pants, and a hat is standing on a rocky, grassy ridge. They are holding a camera up to their eye, taking a photograph of a vast, hazy mountain range under a clear blue sky. The foreground shows dry, yellowish grass and scattered rocks.

A photograph showing two mountain lions in a natural, arid environment. One lion is sitting upright, looking towards the right, while the other is lying down next to it. They are positioned near a large, horizontal metal pipe or log. The background consists of dry grass and a hillside covered in dense, low-lying shrubs.

A photograph showing three deer in a natural, brushy environment. One deer is in the foreground, looking towards the camera. Two other deer are behind it, one of which is drinking from a large, flat, light-colored object that looks like a piece of metal or a large rock. The background is filled with dense, dry brush and trees.

So this year, consider getting out of the house for a little scouting before the start of hunting season, even if it's just to place a trail camera. It will help you get in shape for the hunt and maybe allow you to spend a wonderful weekend in the outdoors with your family or friends. If you decide to buy a trail camera, you may just find that the water hole you have been hunting for years not only has deer and elk

**Volume 54, Number 2**



# Go wild in the Pecos Wilderness

Back-country hard to beat for hunting, hiking, angling

By Clint Henson

New Mexico abounds in beautiful backwoods areas. From the high deserts of the southwest to the snowcapped Sangre de Cristo mountains, no matter where you live in New Mexico you are never far from some wonderful outdoor getaway.

If you live near Santa Fe or Las Vegas, your outdoor jewel is the Pecos Wilderness.

Established in 1964, this 223,000-acre area holds outstanding hunting, fishing, camping and hiking opportunities. Its centralized location makes it only a few hours drive from most areas of the state.

If you are planning to hunt, fish or just hike in the Pecos Wilderness, here are some tips from Phil Howes, the Pecos-area conservation officer for the Department of Game and Fish:

### Hunting’s a challenge

The Pecos Wilderness will provide a great hunting experience, but you may not find a trophy deer or elk. The elk population is stable and the deer population is increasing, but trophies are hard to find. Hunter success is somewhat low -- 24 percent for elk hunters and 27 percent for deer hunters. The low success rates can be attributed in part to very thick vegetation and not many big roadside meadows. Hunters must get into the woods to find wildlife.

Recent forest fires have greatly helped the habitat and deer reproduction. There is plenty of water, giving wildlife lots of options while



Photo: Phil Howes

**The scenery in the Pecos Wildnrness is among the finest in the country. Above, a blue gentian and grazing horses overlook North Fork Lake from the Continental Divide in the northeastern corner of the wilderness area.**

decreasing hunters’ chances when staking out a water hole.

### Know your limits

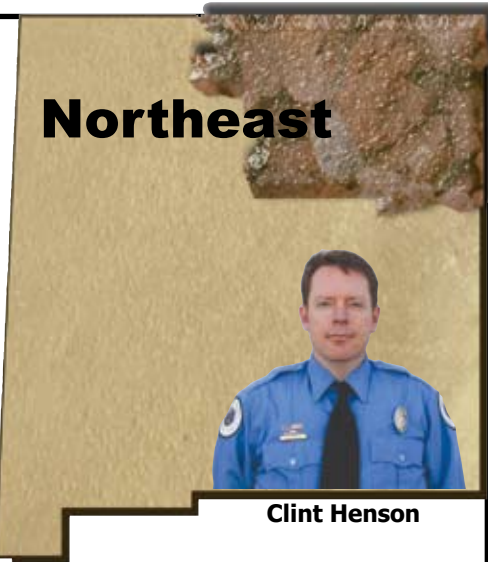
If you plan on hunting, fishing or hiking deep into the wilderness, make sure you know your limitations. It will take a four- to nine-mile hike to reach some of the most remote areas.

Hiking in from the Iron Gate Campground above Pecos Canyon to Hamilton Mesa is the easiest route. If you climb off the mesa, make sure to conserve enough energy to get back

out. Jack’s Creek campground at the top of Pecos Canyon, with its corrals and camping facilities, is one of the best trailheads for the wilderness.

### Plenty of fishing options

There are many options to fish. You can hike into the wilderness to fish high lakes such as Catherine, Spirit, Stewart and Johnson, or you can camp in lower areas and fish near your vehicle. Some areas to try include Holy Ghost Creek, the Mora River, Winsor Creek or Cow Creek.



Clint Henson

### Fun day hikes

The Pecos offers some great day hikes for pleasure or hunting and fishing. Consider Elk Mountain or Barrillas Peak on the east side, or Valle de la Osha, near Mora.

### Watch the weather

Weather can be treacherous. Be prepared for blizzard conditions at any time of year. Snow in the winter can be dangerous, but summer hail and lightning storms pose just as much threat to life.

The Pecos Wilderness offers some of the most beautiful high-mountain scenery anywhere in the United States. Hunters and anglers looking for a true pack-in experience will enjoy being away from roads, four-wheelers and RV campgrounds. Elk, deer, bighorn sheep, bears and lions await you.

More information about the Pecos Wilderness can be found at [www.pecosnewmexico.com](http://www.pecosnewmexico.com), or [www.fs.fed.us/r3/sfe/districts/pecosLV/index.html](http://www.fs.fed.us/r3/sfe/districts/pecosLV/index.html).

*Clint Henson is the Department of Game and Fish public information officer for the Northeast Area. He can be reached in Raton at (575) 445-2311 or [clint.henson@state.nm.us](mailto:clint.henson@state.nm.us).*

# Pecos River offers miles of angling options

By Mark Madsen

New Mexico is not known for its overabundance of major rivers, lakes and streams. The main watershed in south-central and southeastern New Mexico is the Pecos River and its tributaries. The river’s character changes several times on its way to the Rio Grande in southwest Texas, offering lots of angling opportunities along the way.

The Pecos River originates as a clear, cold stream in the mountains of the Pecos Wilderness in north-central New Mexico. The morphology, or face, of the river changes when it enters Santa Rosa Lake north of Santa Rosa. It runs through fairly deep, rocky sandstone canyons until it reaches Sumner Lake, where it changes again and runs through red sand, mud and clay through the Pecos Valley on its way to Brantley Lake south of Artesia. This section of the Pecos tends to be shallow and occasionally becomes intermittent during the summer months. Below Brantley, the river changes its face yet again. The lower Pecos is characterized by deep, green-colored pools separated by rocky runs and riffles. The face of the river stays pretty much the same all the way to the Texas state line south of Carlsbad.

The Pecos is known for its angling diversity. The upper reaches offer opportunities to catch rainbow and brown trout. Santa Rosa and Sumner Lakes contain many warmwater

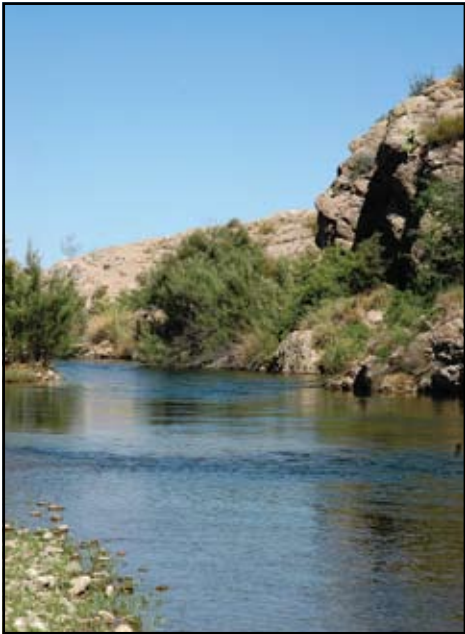


Photo: Mark Madsen

**The lower Pecos River is a great place to test your angling skills on carp and long-nosed gar.**

species, including walleye, largemouth and smallmouth bass, white bass, crappie, catfish and occasionally a pike or two. Fishing the Pecos from Fort Sumner to Roswell and south to Brantley Lake consists mainly of finding the deeper holes with the primary catch being catfish. Fishing can be good for channel cats and a few flatheads, with some of the latter reaching sizes up to 30 pounds.

Fishing in Brantley Lake has been extremely slow due to low fish numbers after several major fish

kills caused by golden algae blooms and associated toxins. All fishing in Brantley is strictly “catch-and-release” due to the presence of DDT and its derivatives in the fish. Sections of the Pecos River from Brantley south to the state line below Carlsbad have been hit hard by intermittent golden algae blooms. Spring and fall fish surveys have shown that there are still pockets of the river that haven’t been affected by fish kills and that some largemouth bass and catfish can be found. Anglers need to be aware of fish consumption advisories for Brantley south to the state line due to the presence of DDT and PCBs. Please see the 2009-2010 New Mexico Fishing Rules and Information Booklet for more information.

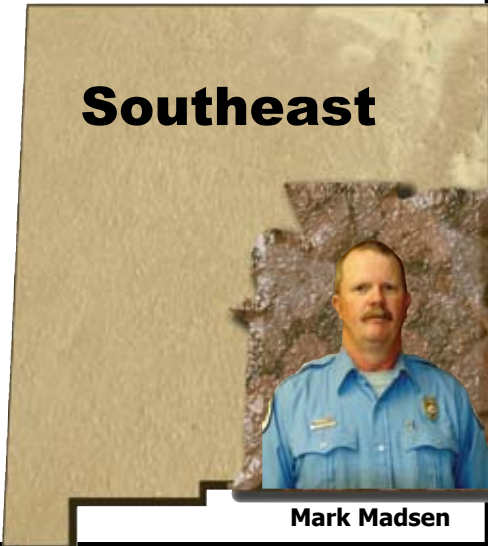
Anglers looking for big fun can find it on the lower Pecos River, where there are plenty of large carp. Common carp are numerous, especially in the Carlsbad Municipal and Bataan sections of the river. One of the favorite methods of catching carp is the use of flour tortillas and white bread. That’s right, flour tortillas and white bread. Carp feed off of the surface much like trout rising to take a fly. When you see carp surfacing, cast small pieces of flour tortilla or white bread placed on lightweight hooks and light line.

If you really want a challenge, try fishing for long-nose gar. Long-nose gar can be extremely hard to hook due to their long, boney teeth-filled snouts. Gar can be found in the Pecos River from Roswell south to the state line.

One popular fishing method includes using a bobber a couple feet above a treble hook baited with a minnow. Gar also can be caught using lures made with cotton or nylon twine that has been frayed on the ends -- no hook needed. Fish these hookless lures like you would any minnow-imitating lure. The fine teeth of the gar get hung up in the frayed twine.

So if you’re looking for a little variety in your fishing, give the Pecos River a try. You can fish for trout in the morning and catfish and bass the same day in the same river if you don’t mind driving an hour or two.

*Mark Madsen is the Department of Game and Fish public information officer for the Southeast Area. He can be reached in Roswell at (575) 624-6135 or [mark.madsen@state.nm.us](mailto:mark.madsen@state.nm.us).*



Mark Madsen



# Gotta love 'em

## Smelly, ugly turkey vultures earn their keep

Story by Sarah Schmeer  
Photos by Sally King

The turkey vulture is a bird with few fans, but those who fall in love with vultures fall in love forever. They come to view the bird's carrion-eating tendencies as a generous service. They find the bare, red head cute and endearing. True turkey vulture fans even learn to tolerate the gag-inducing smell of vulture vomit -- and believe me, that's a hard one to overcome, especially when it's all over your shirt.

It took me years of volunteering at a the Rocky Mountain Raptor Program in Colorado to overcome my aversion to vultures, but with time the bird's disgusting habits and ugly appearance no longer matter. In fact, those very traits that make people draw back in revulsion are what make turkey vultures such fascinating and wonderful creatures.

Turkey vultures are classified as New World vultures, and unlike their Old World cousins in Africa, they may be more closely related to storks than to raptors. Without talons with which to grab and kill their prey, turkey vultures have evolved some remarkable adaptations to help them get their lunch. Most notable of these is their sense of smell.

Unlike most birds, Turkey Vultures can smell extremely well, and can even detect ethyl mercaptan, a chemical released during decomposition, from up to eight miles away. They use their long, broad wings to soar around, often flying for up to six hours without flapping, testing the air for a whiff of ethyl mercaptan or the sight of other vultures converging on a dead animal.

Once a vulture has landed at its meal, other unique adaptations come into play. The bird's bare head allows it to dip into a carcass without globs of gooey meat sticking in its feathers. Its beak, long and powerful enough to crack bones for the nutritious marrow inside, has nares (nostrils) that go straight through, and are far easier to clean out than two individual holes boring inward with no exit.

Because vultures have no talons or other weapons for defending themselves, they've adapted a brilliant - if gross - method of self defense: When a turkey vulture is bothered, it regurgitates the partially digested, rotting food it's been eating. The putrid smell is enough to drive off all but the hungriest intruder.

After working with turkey vultures for four years at a raptor rehabilitation facility, I have come to adore these unlikely creatures. Their cleverness, strong spirits and mischievous personalities have won me over, heart and soul. Unfortunately, few people share my sentiments. They see the undesirable characteristics of the birds, but not the purposes of those attributes.

Vultures get little respect, and they face a tough world full of humans who do them harm, both accidentally and intentionally. Vultures are killed by chemical toxicity from eating



A turkey vulture warms its wings in the morning sun from its roost at Bandelier National Monument, above, before taking to the air in search of food. At left, a turkey vulture picks at an elk carcass. Below, a roosting turkey vulture limbers up its neck for a long day of soaring.



poisoned carcasses; they are the frequent victims of speeding trucks and cars while dining on roadkill; and most tragically of all, they are often shot, either for sport or out of spite.

The month of March heralds the annual return to Los Alamos of these amazing birds as they fly back to their breeding grounds from countries as far south as Venezuela. I look forward to the bright, spring day when I glance up and see not just crows and ravens over the local landfill, but the slow, graceful flight of a turkey vulture scenting the breeze for his next meal.

I also look forward to a time when the number of

poisoned, car-hit and gunshot vultures admitted to wildlife centers decreases. The next time you see a turkey vulture perched in a tree or flying overhead, try to look at it with new eyes and appreciate what an incredible bird it is, and then tell others how amazing these animals are. Only through education can we help keep them in the skies.

*If you find an injured turkey vulture, or any other injured bird, please call The Santa Fe Raptor Center at (505) 699-0455 (Santa Fe), or (505) 662-7418 (Los Alamos). For more facts and information on turkey vultures, please visit <http://vulturesociety.homestead.com/>.*

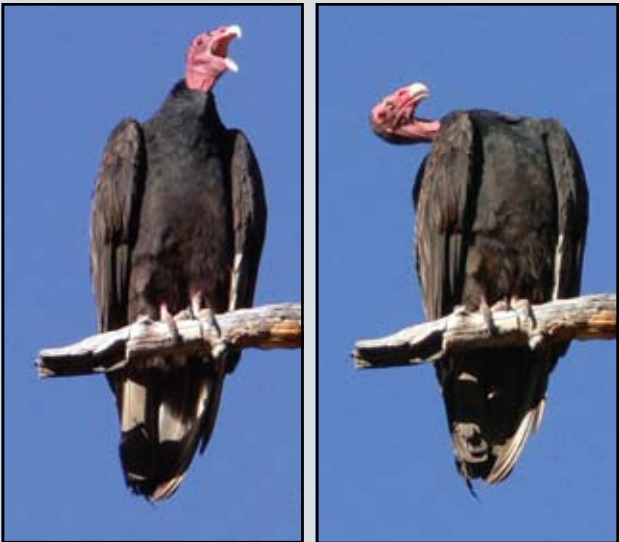
### Turkey vulture (*Cathartes aura*)

**Description:** A large, blackish-brown soaring bird with a mostly unfeathered red head. Adults are 25 to 32 inches long, weigh about 4.5 pounds and have a wingspan of 67 to 70 inches and a short, hooked ivory-colored bill. In flight, wing feathers appear silver-gray underneath, contrasting with darker wing linings. Sexes appear similar, but females are slightly larger. Juveniles have gray heads with black beak tips.

**Behavior:** Soars over great distances, usually foraging alone and detecting carrion by sight and smell. Rarely flaps its wings, maintaining stability and lift by holding wings in a V-shape while teetering from side to side. Heightened sense of smell can detect carrion through forest canopies. Usually silent, but makes a hissing noise while feeding and at roosts.

**Nesting:** Does not make nests, laying eggs directly on the ground in caves, crevices, mammal burrows, hollow logs, under fallen trees or in abandoned buildings. Eggs are creamy-white with dark blotches around the large end. Clutches range from one to three eggs.

**Habitat:** Prefers rangeland and areas of mixed farmland and forest. Roosts in large trees or on large urban buildings.



**Diet:** Wide variety of carrion, from small mammals to large wildlife and livestock. Also eats some insects, invertebrates and some fruit.

**Range:** In summer, breeds from southern Canada south through southern South America and the Caribbean. Winters south from coastal areas from northern California to the Mexican border; and south from southern Missouri and southern New York.

*Source: Cornell Lab of Ornithology.*





# Heart Bar Wildlife Area: a Gila country gem

For hunters and hikers, the Heart Bar Wildlife Area is a launching point into the 3.3 million acre Gila Wilderness. For birders, it's a chance to see species found few other places in New Mexico.

Nestled along the Gila River just next door to the Gila Cliff Dwellings National Monument, the 800-acre Heart Bar beckons hikers, photographers and anglers with its scenery and wildlife. Elk, deer, wild turkeys and hundreds of species of birds are common sights along the riparian zone acquired by the State Game Commission in 1951 for a bargain \$115,776.

The purchase included grazing rights to 92,000 acres in the adjacent Gila Wilderness, enabling the Commission to improve the land as wildlife habitat by excluding it from cattle and sheep.

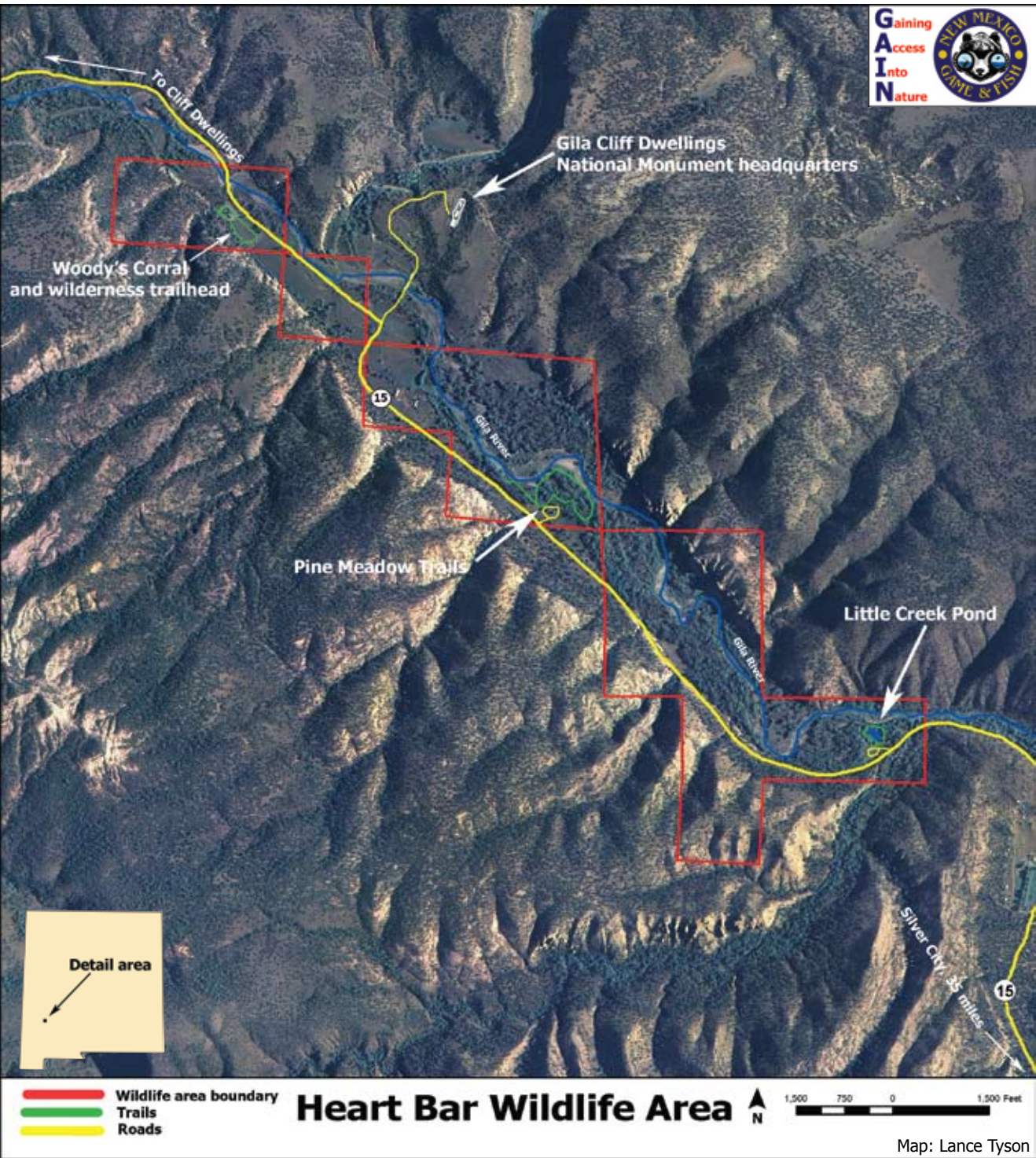


Photo: Dan Williams  
**Painted redstart**

"The Heart Bar is a special place not only for its wildlife, but also for its history and culture," said Mike Gustin, assistant chief of the Department of Game and Fish Conservation Services Division. "It's a precious riparian area that supports a wide diversity of wildlife that people have enjoyed for centuries."

Thousands of people visit the Gila country every year to get a taste of the area's rich history. The Mogollon people created the cliff dwellings near the river in the 1200s. Later, the area was populated by the Apaches, including Geronimo, who grew up along the banks of the Gila.

Access to the area has been limited mostly to fishing and bird watching since the purchase, but this year, two hiking trails were developed to encourage more visitors to enjoy the wildlife. The Pine Meadow Trails are family friendly, mostly flat tours of a meadow, riparian forest and a short section of the Gila River. Farther downstream,



access to the river is available at Little Creek Pond. Gila trout are stocked in the area in the cooler months, and anglers might catch smallmouth bass, brown and rainbow trout and flathead catfish year-round.

The Heart Bar is well-known among birders for the many colorful species of birds that spend time there. Common blackhawks, painted redstarts, lazuli buntings and warbling vireos are among species that attract birders to the area.

No camping is allowed in the lower areas of the Heart Bar, but primitive camping and overnight stays in recreational vehicles are allowed at Woody's Corral, a popular trailhead and staging area for hunting and other trips into the Gila Wilderness. Well-kept National Forest Service campgrounds also are available nearby.

The Heart Bar was one of several state wildlife areas opened in 2008 to wildlife-associated recreation other than fishing through the Department's Gaining Access Into Nature, or GAIN, program. Visitors ages 18 or older must have either a year-round or five-day GAIN permit, and a Habitat Management and Access Validation to get access to certain parts of the area. Costs for the permits, including the validation, are \$19 for a full year, \$8 for five days. Licensed anglers do not need GAIN permits while fishing, but need permits for other activities.

For more information about the Heart Bar Wildlife Area and GAIN opportunities statewide, please visit the Department Web site, [www.wildlife.state.nm.us](http://www.wildlife.state.nm.us).



Wildlife watchers enjoy birding at Little Creek Pond, top left, and seeing herds of elk that venture into open areas along the Gila River during the summer, bottom left.

Photos: Marty Frentzel, above, top left; Dan Williams, bottom left



# Putting money where wildlife lives

## Hunters, anglers help fund projects with Habitat Stamps

By Dale A. Hall

Every year, biologists from the Bureau of Land Management, U.S. Forest Service and New Mexico Department of Game and Fish meet to discuss various wild landscapes across New Mexico. They consider the wildlife supported by the habitats, and whether they could support more. The biologists also deal with the hard fact that every landscape has factors that limit wildlife populations. Teasing out those limitations and implementing improvements to overcome them is the true purpose of the New Mexico Habitat Stamp Program.

The State Game Commission adopted the Habitat Stamp Program in 1991, recognizing that wildlife habitat is the key to increasing wildlife populations. With that action and hunters and anglers who pay a mandatory \$5 fee, there have been substantial funds available for wildlife habitat improvement. Every year, about 160,000 hunters and anglers purchase more than \$870,000 worth of Habitat Improvement Stamps before they go afield to hunt, fish or trap on BLM or Forest Service lands in New Mexico.

### Food for the needy

The definition of wildlife “habitat” is providing food, water, shelter and space. However, sometimes we forget that habitat components must be arranged in a manner that allows wildlife access to all components within its range, large or small. For example, what good is it to have an ocean of water if there is no food? What we commonly find in New Mexico is the opposite -- a shortage of available water. Our wildlands often are replete with a forest of shelter, but little food.

Another common oversight is that wildlife must have every one of those components available to them year-round to be “habitat.” If a wild animal has plenty of food in the spring, but is famished for just one month in winter, that animal has two options: leave in search of food, or die. Wildlife has adapted numerous strategies to overcome this common problem. Bears hibernate, hummingbirds migrate south, to mention a couple. However, many species simply tough-out the winter, relying on a strategy to search for limited resources while living off their fat supplies.

Studies in New Mexico have found that when deer come out of the winter in poor



**New Mexico hunters and anglers are required to purchase \$5 Habitat Stamps if they want to use U.S. Forest Service or Bureau of Land Management lands. The stamps raise about \$870,000 a year for a variety of projects, including stream restoration in the Valle Vidal, above, and turkey traps and transplanting operations in northwestern New Mexico, left.**

Photos: Chirre Keckler, above; Randy Isler, left

condition, does have fawns later in the year, and they are lighter in weight. That leads to poor fawn survival and limits deer populations. To help the state’s deer herds through especially tough winters, the Habitat Stamp Program has funded more than 594,000 acres of vegetative treatments and 10,500 acres of improvements to riparian areas to increase wildlife food in quantity and quality.

### Life-sustaining water

Those who have lived long in New Mexico have seen first-hand the problems a lack of water create. People involved in the Habitat Stamp Program sometimes joke about how great they are at managing habitat -- when it’s raining. Of course, they all realize water is

often a make-or-break habitat issue for a whole suite of species.

Motion-sensing cameras have captured hundreds of images of the vast variety of species that use water sources. On any given day, a manmade trick tank or drinker might be used by deer, elk, cougars, birds and other species looking for a cool drink of water. The same drinker that slaked the morning thirst of a turkey might serve as an afternoon bathtub for a black bear.

Since its inception in 1991, the Habitat Stamp Program has funded 690 places for wildlife to drink water. The program also has adopted more than 200 existing structures, but the high cost of maintaining those

*Continued on Page 9 ...*



Photos: Gerry Johnson

**From deer and elk to bathing bears and prowling lions, motion-sensing cameras capture a variety of wildlife that use Habitat Stamp water sources.**





... continued from Page 8

structures is leading to more concentrated efforts in replenishing natural sources of water such as springs and seeps.

### Shelter from cold, predators

When winter approaches, people can seal their doors and windows to shelter their families from the cold, but how does wildlife cope? What can habitat managers do to provide shelter for wildlife?

The key is first to determine the limiting habitat factor for a particular species of wildlife. The Habitat Stamp Program has funded extensive tree thinning projects to create food, but altered the cutting to leave snags for cavity nesting birds. Trees also were left to create a visual barrier along the road to discourage illegal spotlighting, and cuttings were designed to provide travel corridors for wildlife to move to and from the food source.

Fish need shelter, too, and the program has helped fund a project to place large boulders in the San Juan River so trout can find a place to rest and find protection from avian predators.

The Habitat Stamp Program also has enclosed many wet areas so turkeys, quail, jumping mice and voles can find the tall grass to make their nests. Bighorn sheep and prairie chickens have benefitted by projects that provided shelter by removing vertical structures such as broken windmills that are used by their predators.

### Space to grow

New Mexico is known for its wide open spaces, but that is not the same concept of space that habitat managers use when they are trying to meet the needs of wildlife. If, after ensuring a good arrangement of food, water and shelter, managers do not see a wildlife population flourish, they may diagnose that there is a limiting space problem.

“Space” in this context refers to crowding or elbow room of the targeted population. Too crowded and the wildlife will not thrive; too few animals and breeding success will be marginal. Crowding issues can be regulated with hunting. When there are too few animals, Habitat Stamp funds can be used for trapping and transplanting projects. These projects fill a good habitat with enough animals so the population can flourish on its own. The program has funded pronghorn, deer, beaver and turkey transplants to start populations or to augment existing ones.



Photo courtesy, Bureau of Land Management

**Controlled burns improve habitat and provide food for wildlife by exposing soil and seeds to the sun’s rays, encouraging native plants to grow more vigorously.**

### Food

- **485 vegetative treatments**
- **594,290 acres treated**
- **\$6,031,869 from Habitat Stamps**
- **\$7,121,407 from BLM and USFS**
- **\$1,069,247 from volunteers and conservation organizations**
- **Total expenditures: \$14,222,522**



Photo: Danny Waldon

**Trick tanks collect rain water for storage in large tanks that feed water holes downhill. The water flow is controlled by float valves similar to those used in household toilets.**

### Water

- **531 water developments**
- **690 structures built**
- **\$2,558,123 from Habitat Stamps**
- **\$1,531,388 from BLM and USFS**
- **\$268,899 from volunteers and conservation organizations**
- **Total expenditures: \$4,358,410**



Photo: Larry Kamees

**When habitat work creates more space for wildlife, organizations such as the New Mexico Wild Turkey Federation often assist with wildlife transplant operations.**

### Space

- **17 wildlife transplants**
- **1,488 animals relocated**
- **\$62,363 from Habitat Stamps**
- **\$67,900 from BLM, USFS**
- **\$45,573 from volunteers and conservation organizations**
- **Total expenditures: \$175,836**



Photo: Jim Hirsch

**Salt cedar removal projects enable native vegetation to re-establish itself in riparian areas, improving habitat for wildlife and increasing water flows for fish.**

### Shelter

- **154 riparian area improvements**
- **10,586 acres improved**
- **\$863,579 from Habitat Stamps**
- **\$813,886 from BLM and USFS**
- **\$110,284 from volunteers and conservation organizations**
- **Total expenditures: \$1,787,749**

In the life of the Habitat Stamp Program, \$28.7 million has been spent on 1,928 wildlife habitat projects. In this effort, the Habitat Stamp Program has contributed \$14.3 million and federal agencies have spent an additional \$12.6 million in matching funds in the form of cash and costs associated with planning, tracking funds, involving public

in decisions and obtaining archeological/cultural clearances. Other organizations have contributed uncalculated dollars and time. Volunteers are invaluable to the program and allow Habitat Stamp dollars to go even further. Each year, school children, sportsmen’s groups, civic and environmental organizations drive to remote locations, roll up their sleeves and go to work. To get involved, call you local U.S. Forest Service or Bureau of Land Management office.

Biologists, land managers and others with the Department of Game and Fish, U.S. Forest Service and Bureau of Land Management deeply appreciate the financial and volunteer support of the Habitat Stamp Program. Those efforts continue to help the program help wildlife where it counts -- where wildlife lives.

Dale A. Hall is the Habitat Stamp Program coordinator for the New Mexico Department of Game and Fish. He can be reached at (505) 222-4725 or dale.hall@state.nm.us.

### Please give us your thoughts

The New Mexico Habitat Stamp Program comes up for renewal in 2011 and the Department of Game and Fish would like to hear from hunters, anglers and others about this effort to improve wildlife habitat in the state. Currently, hunters and anglers who use U.S. Forest Service or Bureau of Land Management lands are required to purchase a \$5 Habitat Stamp annually along with their licenses. Those who don’t hunt or fish can contribute to the program by purchasing stamps from any license vendor.

Are you willing to continue supporting this program?

Please send your thoughts and suggestions to Dale A. Hall, dale.hall@state.nm.us, or New Mexico Department of Game and Fish, Habitat Stamp Program, 3841 Midway Place NE, Albuquerque, NM 87109.





# Bird bands tour the world

## Markers shed light on migrations, behavior

By Ryan Walker

It is a rare and exciting occurrence to find a banded bird. Imagine: It's early morning and you are sitting over a dozen decoys or pass-shooting ducks along a river. After making an excellent shot on a big drake mallard, you approach and notice he's lying feet down in the water. If you're like many hunters, the first thing you check is whether he has a leg band.

The odds are heavily stacked against you.

According to the Bird Banding Laboratory operated by the United States Geological Survey in Patuxent, Md., approximately 65,000 bird bands are reported annually, of which 72 percent are game species. The current population estimates for ducks is around 40 million. That leaves you with a 0.1 percent chance that the bird you just shot is going to have a band. Not very good odds, but the odds are even lower of finding a banded bird that is not a game bird. About three nongame birds are banded for every duck or goose that is banded, but only one nongame bird is recovered for every three ducks or geese.

So why bother banding birds?

Tracking birds always has been a challenge to researchers. Birds are usually small, lightweight and often highly mobile, making them very difficult subjects. Several species of birds have been known to nest in the Arctic and spend the winter in South America.

Banding is a way for researchers to follow birds on a number of scales. Globally, band recoveries provide information on migration routes and extreme journeys. Locally, band recoveries can be used for social and behavioral studies, such as nest-site and breeding-pair fidelity. Band recoveries also have helped answer questions about the life span of birds.

If a bird is marked in any way, it will generally have a leg band. The most common type is a simple aluminum band. The bands are uniquely numbered and provide contact information should the bird be found. Although less common, some birds are fitted with colored aluminum or plastic leg bands. Different color combinations are often used to identify individual birds for behavioral studies.

Some birds require different leg bands for a variety of reasons. Some bands have crimp tabs, making them harder to remove. These are used on birds such as hawks that are able to remove simple butt-end bands. Eagles require even tougher bands that are riveted together, as the large, powerful birds are notorious for removing other kinds of leg bands.

To recover a leg band, you need to have the bird in hand. Often this is accomplished by harvesting if it is a game species, or by recapturing the bird if it is a game or nongame species. Getting a banded bird in-hand can be a challenge. Closed



Biologists attach leg bands to game birds such as blue-winged teal, left, and nongame birds such as saw-whet owls, above, to study the birds' migration patterns, behavior and life spans, among other things. Sometimes, larger markers are attached to birds' wings so they can be identified at a distance. Below, a golden eagle tagged in Montana visits an elk carcass at Vermejo Park Ranch in Northern New Mexico.

Photos: left, Ryan Walker; above, Dan Williams; below, courtesy Vermejo Park Ranch.

hunting seasons and other regulations can prevent researchers from legally harvesting or capturing birds. To deal with that, large markers have been developed that allow identification at a distance. Plastic neck bands often are used for long-necked species such as geese, swans and cranes. These neck bands will have combinations of large numbers and letters on them that are easy to distinguish with a spotting scope. Patagial, or wing, tags are often used on raptors and other soaring birds. A tag is placed through the patagium, the skin on the leading edge of the wing, and will have a combination of letters and numbers.

Neck bands and patagial tags may not be enough to uniquely identify the bird, but the Bird Banding Laboratory should at least be able to identify the research project the bird came from and provide finders with additional contact information.

In the fall of 2000, I shot my first Canada goose in Wisconsin and was overjoyed to see it was banded. I reported the band to the Bird Banding Laboratory and received information in the mail a few weeks later. I was extremely excited to find out the bird was originally banded in Alabama in 1983. The bird was only two years younger than me!

More recently in New Mexico, a Vermejo Park



Ranch employee brought in pictures from a trail camera placed on an elk carcass. The motion-sensing camera captured images of numerous eagles on different days, but one of them was very special.

When a golden eagle with blue wing tags showing a white C-42 showed up on the carcass, ranch employees were anxious to learn more about it. Unfortunately, they were unable to find out much. I also was excited about the find, and after a call to a friend with the U.S. Fish and Wildlife Service, discovered the bird had been banded by the Raptor View Research Institute in Montana, [www.raptorview.org](http://www.raptorview.org). I contacted Raptor View and they were extremely interested in the find.

The organization's records showed that golden eagle C-42 -- a female -- was banded as a fledgling in the fall of 2007, and probably was born in the Northwest Territories of Canada. Her journey was not uncommon, as many golden eagles winter in New Mexico and spend the summer months in Canada.

Discovering a bird with wing tags was very exciting. If you are a hunter or just a fan of migrating birds, keep your eyes peeled for a band or a marker. You never know, you might just come across another world traveler.

### What to do if you find a banded or marked bird

- Contact the Bird Banding Laboratory in Patuxent, Md., at (800) 327-2263 or [www.pwrc.usgs.gov/bbl](http://www.pwrc.usgs.gov/bbl) and report the band number, where, when and how the bird was found. The laboratory maintains all banding records and will provide you with any specific information it has about the banded bird.
- If you need help reporting a marked bird, or find a dead, marked or banded bird, please contact the New Mexico Department of Game and Fish at (505) 476-8000 or an area office of the U.S. Fish and Wildlife Service. This is especially important if the bird is a migratory species such as an eagle because it is illegal to possess those birds or parts of them.

Ryan Walker is the Northeast Area Game Manager for the Department of Game and Fish. He can be reached in Raton at (575) 445-2311 or [ryan.walker@state.nm.us](mailto:ryan.walker@state.nm.us).







Eagle Nest Lake State Park's new visitor center, above, will include an outdoor nesting platform for ospreys when it opens this fall, thanks to the work of students at Eagle Nest Middle School, right.

Photos: Marti Niman



## Students build platforms for osprey nests at new Eagle Nest Visitor Center

By Pat Walsh

Eagle Nest Middle School teacher Larry Smith is closer to seeing his dream come true.

This past spring, students from Smith's seventh-grade science class picked up hammers, saws and drills to build an osprey nest platform for the birds of prey at Eagle Nest Lake State Park. The nest platform project is a collaboration among New Mexico State Parks, the non-profit Cimarron Watershed Alliance and Smith's class. Smith proposed the platform idea to State Parks employees several years ago.

The watershed alliance allocated \$5,000 for the project, which was expanded to include a video camera to transmit live footage of bird activity on the platform. The platform will be mounted atop a utility pole, and a solar-powered unit will run the camera, a microphone and a transmitter. The transmitter will send the video signal to a receiver at the visitor center currently under construction.

The hope is an osprey or a bald eagle will nest on the platform, thus allowing students to watch the process until the chicks leave. Similar projects have been carried out elsewhere around the United States.

Ospreys and bald eagles eat fish and are at the top of the lake food chain along with humans. The bald eagle came close to extinction before U.S. officials banned the pesticide DDT in the 1970s. DDT had worked its way up the food chain into fish and affected bald eagles and ospreys by causing their eggs to break.

"These birds help us know whether we have healthy water," Walsh said.

Pat Walsh, State Parks Northeast Region interpretive ranger, is coordinator of the osprey platform project.

# Osprey Fest July 10-12 at Heron Lake State Park

By Siscily Lederman

With loud peep-peep-peeping and high overhead spiraling, this bird announces its spring arrival. Its huge stick nest is built in clear view – often near a building, trail or road from which nesting activity may be easily witnessed by all who desire. Based on the posturing and behavior of this avian couple, the average birdwatcher can tell when the eggs have been laid, when they hatch, and within a few weeks, the number of young.

Can you name this birdwatcher's dream-bird? It is *Pandion haliaetus*, the osprey, and folks around Heron and El Vado lakes in northern New Mexico celebrate the abundance of these nesting birds with an annual festival the second weekend in July. The fourth annual Osprey Fest will be July 10-12 this year.

The festival began in 2005 when then-Heron Lake State Park educator Tom Turnbull invited biologist Dale Stahlecker to lead a June morning "Osprey Walk and Talk." Both men saw an opportunity to educate the public on the unique status of the osprey and the importance of preserving its habitat – not to mention the ease with which participants could view the bird. It was a perfect candidate for active interpretation.

Stahlaker had been monitoring the northern New Mexico birds since 1992 with funding from the New Mexico Department of Game and Fish and had first-hand information to impart. The "Osprey Walk and Talk" was well attended; guests were able to observe several nests within Heron Lake State Park and enjoy intimate views of osprey nesting behavior through spotting scopes. The following year, The Friends of Heron Lake and El Vado Lake State Parks approached park management with the idea of turning the "Walk and Talk" into a signature park event and the Osprey Fest was born.

Each year four stations with shade, spotting scopes and knowledgeable docents are strategically placed throughout the park. The docents know the year-by-year history of each nest. Before 1990, ospreys were not nesting in the area; their local history is relatively short but well-documented.

Ospreys have high nest and mate fidelity, returning year after year to the same nest and joining to reproduce with the same mate. This makes it easy for observers to accumulate a history. Though breeding pairs do not migrate to the same southern locales, they do return to their nests within days of each other.

In northern New Mexico, ospreys return at the end of March, just in time to deal with high winds and unwelcome spring snowstorms. They immediately begin building or repairing the nest. And they pursue their prey – fish – which is why the nests never will be far from a lake or a good fishing river.



Photo: Don MacCarter

**An osprey chick waits for its parents to bring dinner.**

It is speculated that the first members of the northern Rio Arriba County osprey breeding colony pioneered their way to Heron and El Vado from lakes near Durango, Colo. Since 1990, the number of breeding pairs has grown to 17 or 18, counting the new couple in the back yard of the Heron Lake State Park visitor center. After a five-year vacancy, the visitor center pole and platform placed by the local electric co-op, NORA are becoming the nest/home of a young osprey pair.

Osprey Fest takes flight July 10 with a fundraiser honoring raptor rehabilitation groups from across northern New Mexico. This reservations-only event features speakers and a wine and cheese reception.

The Saturday Lake Safari offers a dozen lucky registrants the opportunity for a guided boat tour of nests that are not normally seen from park roads and a talk on the history of Heron Lake.

A self-guided GPS Osprey Land Treasure Hunt will give families the opportunity to earn a prize when they complete the discovery and documentation of six geocache sites easily accessible from the park road. A Digital Photo Safari workshop will be led by expert Arthurine Pierson of Sandia Labs. The ever-popular birdhouse building workshop and an archaeological exhibit from the Museum of New Mexico are offered as well.

Sunday features an Osprey Fest first: beginning archery lessons by local resident and instructor Steve Sirrell. The Second Annual Nature Train leaves Chama at 11 a.m. on a leisurely trip up Cumbres Pass with lunch and naturalist guides included in the ticket price. Call (800) 604-2411 or visit [www.ospreyfest.com](http://www.ospreyfest.com) for more information.

Siscily Lederman is the interpretive park ranger at Heron Lake State Park.







# Bees please

## Native pollinators bring color, food to wildlife, people

By Rob Yaksich

"Pass the watermelon ..."

"Look ... wild strawberries ..."

"I want a tomato and green chile on my cheeseburger ..."

The sounds and flavors of summer have returned to New Mexico State Parks, and there are winged, six-legged reasons behind the flavorful picnics, colorful scenery and diverse wildlife we get to enjoy.

Bees bring to mind a bustling hive of busy workers making honey and serving their queen. While that's true of honeybees, which were brought to North America by Europeans, New Mexico's 500-plus species of native bees are nearly all solitary and nest underground or in old beetle tunnels in dead trees. None produce honey. Our bees are as rich and diverse as our people, landscapes and wildlife.

### A colorful quilt



Flowers aren't colorful just for the heck of it. Unlike animals, which can move around to find mates, plants are rooted to the ground and require some help to reproduce.



**Sweat bees, above and right, need open soil for their underground nests. They are one of the most important pollinators of New Mexico chile crops.**

Photos: Marti Niman, above; Jon Sullivan, right



Photo: Marti Niman

### A cactus bee swims in the pollen of a blooming prickly pear at Living Desert Zoo and Gardens State Park in Carlsbad.

Pollen from the male part of a flower must get to the female part of a flower on another plant for seeds to become fertile. Some plants use wind, but most flowering plants need a partner. Enter bees, wasps, sphinx moths, butterflies, hummingbirds, beetles and even bats. Of these different pollinators, bees are the most numerous and diverse in North America.

A landscape filled with colorful flowers shows what flowering plants do to attract potential pollinators. Some flowers are designed to suit many different kinds of pollinators, but others target their efforts. For instance, some members of the sweet pea family require a big, strong bumblebee to open their hinged flowers. When it does, the flower's spring-loaded male structures release and thump the bumblebee's belly, leaving pollen behind. Without bees, our wild landscapes would

be dominated by grasses, junipers, pines and other plants that use the wind to move their pollen.

### Bees and bears and ...



It's no secret that bears love honey, but that's a very rare treat for a New Mexico black bear. Bees benefit bears, other mammals and dozens of species of birds by pollinating flowering shrubs that produce calorie-rich berries such as chokecherries, serviceberries, gooseberries and strawberries. The small, sweet fruits are an important mid-summer food source for our bears, available when most other important bear foods, particularly acorns, are not. If bees such as leafcutters and diggers were absent, bears would face lean times during the summer and might visit towns looking for food in all the wrong places.

In New Mexico's desert country, cactus bees make another important food source possible – the fruits of prickly pears and cholla cactus. These blue- or green-eyed bees often emerge from cactus flowers completely covered with pollen. A busy female cactus bee may visit hundreds of cactus flowers over her short life, an effort that pays off not only in next season's generation of cactus bees, but also in seeds wrapped inside tasty prickly pear and cholla fruits. Javelinas, deer, pronghorns, rodents, birds, and of course, people, enjoy the fruits of mamma bee's labors and the cactus has its seeds disbursed.

### Please pass the chile



Native bees are important pollinators of our crops and gardens. They made the gardens of Pueblo peoples fruitful long







Digger bees, left, leafcutter bees, right, and mining bees, below, are among 500 species of bees that are native to New Mexico. Unlike some species of imported bees, they are not aggressive.

Photos: Marti Niman, left; Jon Sullivan, right and below.



before Spanish colonists arrived with hives of honeybees, and continue to do so today.

While honeybees are extremely important pollinators, nothing pollinates tomatoes better than bumblebees. Their large, furry bodies and unique pollination style mean sturdy, flavorful tomatoes later in the summer – perfect for salsa or a cheeseburger loaded with the works.

Along the Rio Grande, rows of green chile plants turn sun and water into New Mexico’s signature flavor, but not without the efforts of tiny metallic-green sweat bees and big black carpenter bees. Fruit orchards buzz with blue orchard mason bees, among others, providing us with a bounty of apples, peaches and plums. Without bees, our rich, diverse diets would instead be almost entirely foods from wind-pollinated grains, like wheat, barley and corn.

No salsa? No green chile? No apple pie? Nope, not without bees.

### Bee-ing bee-friendly



Some might be hesitant to make their home a refuge for native bees, but the rewards are many. Nearly all of our native bees, because they are solitary nesters, very seldom sting. They are not aggressive, nor do they go looking for trouble. Their lives are too short and hectic for that kind of hassle. In fact, the bees themselves are facing some serious challenges, especially habitat loss and backyards could be part of the remedy.

Here are some things the Rio Grande Nature Center State Park in Albuquerque has done for bees that could work at home:

- Reduce or eliminate the use of pesticide. Most kill any and all insects, including bees and other beneficial insects. Less harmful and targeted options are

available, especially through nurseries that carry native plants.

- Plant native wildflowers and flowering shrubs in clusters in designated habitat gardens. Bees and other pollinators see colors more clearly when they’re clustered. Native plants also thrive in our challenging climate and soils.
- Create or set aside nesting areas for native bees. Mason and leafcutter bees nest in holes made by beetles in dead wood. The same holes can be easily made with a drill. Watch for bee “cookies” and logs in the park’s Mariposaville Pollinator Habitat, which have nesting holes of varying diameters and depths to suit a wide diversity of nesting bees. Most native bee species, including sweat bees and cactus bees, need bare soil for underground nests.

For more information about helping our

valuable native bees, visit the Xerces Society’s Web site, [www.xerces.org](http://www.xerces.org). It’s an organization dedicated to the conservation of invertebrates, particularly pollinators. And the next time you gaze across a landscape of colorful blooms while enjoying a juicy apple or a green chile cheeseburger, thank the bees.

Many State Park visitor centers display native flowering plants that are attractive to bees and other pollinators. Visit the Rio Grande Nature Center, Mesilla Valley Bosque, Living Desert Zoo & Gardens, and Pancho Villa State Parks to watch the pollinator parade that visits colorful blooms. Remember, those flowers bloom and picnics taste so good because of bees.

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Photo: Marti Niman

Carpenter bee



Photo: Jon Sullivan

European honeybee



Photo: Jon Sullivan

Bumblebee



Photo: Marti Niman

European honeybee





Sterile rainbows, more natives

There's a new type of fish swimming in New Mexico's hatcheries this year, and it's helping state biologists in their quest to restore and increase the state's populations of native Rio Grande cutthroat and Gila trout.

Triploids, sterile female rainbow trout, already are being raised at Glenwood Hatchery in southwestern New Mexico and soon will be the only type of fish raised at the Red River Hatchery in the north. The plan is to raise trout that won't interbreed with the natives and compromise the Department's ongoing efforts to maintain pure-strain native populations.

"So far they are doing tremendously," Glenwood Hatchery Manager Stan Long said of the triploids. His crews stock the fish in the Gila River drainages, home of the Gila trout, which recently was downlisted from endangered to threatened, allowing limited angling for the species for the first time since the 1960s. Long said he was impressed with how fast the triploids grow -- up to a third faster than regular rainbows.

"Because they don't reproduce, all that energy goes into growing and fending off disease," Long said. "The only drawback is the eggs are more expensive, but when you figure we can raise more fish in less time, it may be worth it." Triploid eggs are created by a patented pressure-treatment process that renders the eggs sterile by giving them three chromosomes instead of two.

Converting to triploid rainbows is a step toward making the Glenwood Hatchery the state's only producer of native Gila trout because there will be less chance of contamination. Gila trout currently are raised at the National Fish Hatchery in Mora.

The Red River Hatchery is scheduled to receive its first batch of triploid rainbow eggs this summer. The hatchery stocks waters



Photos: Paul King

**Covered raceways help Red River Fish Hatchery keep out predators such as birds and raccoons that can spread diseases. The hatchery is the state's largest trout producer, stocking about 1.7 million fish a year in New Mexico lakes and streams, including more than 500,000 catchable-sized 9- and 10-inch fish.**

statewide, including streams and lakes near Rio Grande cutthroat restoration projects.

Trout for the masses

Raising trout always has been the mainstay of the state hatchery system, and after 10 years battling whirling disease, the runways are back in action. In 2008, hatchery crews stocked more than 1 million 9-inch or longer rainbow trout in state waters. That was accomplished with one hatchery, Los Ojos, shut down for disinfection, and another, Lisboa Springs, running at half-capacity.

Los Ojos will have new raceway covers and begin raising rainbow trout again this year. After it has proven to be whirling disease-free for one year, trout from the hatchery will be allowed to enter state waters. Trout grow more slowly at Los Ojos because the spring water feeding the raceways is so cold -- 48 degrees compared to the optimal trout-raising 58 degrees. Because of that, the hatchery may raise trout only to fingerling-size, and then either stock them or send them to another hatchery.

Lisboa Springs Hatchery near Pecos has

used only half its raceways since whirling disease was discovered there in 1999. Sixteen raceways that used water from the disease infected Pecos River are being converted to spring or well water. The goal is to have them in full production next year.

"We're continually modifying the riverside raceways to keep out the raccoons, birds and other predators that spread disease," said Roddy Gallegos, the Department's assistant chief in charge of hatcheries. "Getting the riverside operation back on line will make a big difference."

Red River and Seven Springs hatcheries also underwent renovations after they were diagnosed with whirling disease. With newly covered raceways, Red River continues to be the state's top trout producer, stocking about 1.7 million rainbow trout a year, almost half of them 10-inches or larger. Seven Springs was converted to raising only native Rio Grande cutthroat trout in 2002. It stocks about 35,000 trout a year in waters statewide, including Costilla Creek, the Pecos River and high-mountain lakes.

Rock Lake and Glenwood were the only state trout hatcheries not infected with whirling disease. Rock Lake raises catchable-sized rainbow trout and hatches walleye eggs that are harvested from state waters. Glenwood will continue raising triploid rainbow trout in addition to its possible new role as the state's Gila trout hatchery.

Warmwater success

Completed in 2007, the state's first warmwater hatchery now can supply state waters with home-grown bass, walleye, catfish and bluegills raised in 11 one-acre ponds. In 2008, the hatchery raised and stocked 70,000 largemouth bass and 109,000 catfish. This year, the hatchery harvested and stocked its first walleyes and tiger muskies.

"The numbers of fish coming out of the warmwater hatchery are only going to get larger as we learn more about the process, which can vary from hatchery to hatchery," Gallegos said. "Right now, it's looking very promising."



Photo: Dan Williams

**Fisheries biologist Marc Wethington tosses a batch of trout into the San Juan River this spring. The Department of Game and Fish raises and stocks more than 1 million trout that are 9 inches or larger into state waters every year.**





# New Mexico's fish hatcheries

The Department of Game and Fish operates six fish hatcheries around the state. Some recently have undergone renovations to address whirling disease and to upgrade facilities. Visitors are welcome during business hours.



## Los Ojos

- **Location:** Village of Los Ojos, about 15 miles south of Chama.
- **History:** Formerly called Parkview Hatchery, it was built in 1932.
- **Production:** Catchable-sized rainbow trout, but may be converted to a fingerling-rearing facility. Capable of raising three million trout fingerlings per year to be stocked in waters statewide.
- **Current status:** Shut down for cleaning and disinfecting after discovery of whirling disease. Expected to be back in full production later this year.
- **Information:** (575) 588-7307, [losojos.hatchery@state.nm.us](mailto:losojos.hatchery@state.nm.us).
- **Manager:** Greg Friday.



Photo: Dan Williams



Photo: Lisboa Springs Hatchery

## Lisboa Springs



- **Location:** About 25 miles east of Santa Fe and one mile north of Pecos.
- **History:** Built in 1921, it is the state's oldest hatchery.
- **Production:** About 136,000 catchable-sized rainbow trout a year.
- **Current status:** Now operating at 50 percent capacity, with production limited to raceways fed by spring water. Discovery of whirling disease forced the shutdown of Pecos River-fed raceways.
- **Information:** (505) 757-6360, [lisboasprings.hatchery@state.nm.us](mailto:lisboasprings.hatchery@state.nm.us).
- **Manager:** Eloy Trujillo.



## Red River

- **Location:** About 20 miles north of Taos.
- **History:** Built in 1941.
- **Production:** About 1.7 million rainbow trout a year, including more than 500,000 catchable 9- and 10-inch fish for stocking statewide. It is the state's largest-production hatchery and currently is being converted to raising triploid (sterile) trout to be stocked in waters where interbreeding with native fish is not desired.
- **Current status:** Recently renovated with fully covered raceways and disinfected following discovery of whirling disease. Now operating at full capacity.
- **Information:** (575) 586-0222, [redriver.hatchery@state.nm.us](mailto:redriver.hatchery@state.nm.us).
- **Manager:** Dan Arevalo.



Photo: Paul King



Photo: Dan Williams

## Rock Lake



- **Location:** About 2 miles south of Santa Rosa.
- **History:** Built in 1964.
- **Production:** The state's primary catchable trout-rearing station produces 300,000 trout a year for stocking statewide. The warm-water hatchery component also raises bass, walleye, catfish, bluegills and tiger muskies.
- **Current status:** Full production of trout, walleye, bass and catfish. Production of bluegills and tiger muskies is expected this summer and fall.
- **Information:** (575) 472-3690, [rocklake.hatchery@state.nm.us](mailto:rocklake.hatchery@state.nm.us).
- **Manager:** Leonard Rice.



## Seven Springs

- **Location:** About 22 miles north of Jemez Springs and 4 miles north of Fenton Lake in the Jemez Mountains.
- **History:** Built in 1936.
- **Production:** Responsible for production and distribution of native Rio Grande cutthroat trout, New Mexico's State Fish. The hatchery has raised more than 72,000 trout for stocking since 2002.
- **Current status:** Operating at full capacity following treatment for whirling disease.
- **Information:** (575) 829-3740, [sevensprings.hatchery@state.nm.us](mailto:sevensprings.hatchery@state.nm.us).
- **Manager:** Tony Jacobson.



Photo: Marty Frentzel



Photo: Adam Havard

## Glenwood



- **Location:** About 45 miles north of Silver City and 35 miles south of Reserve.
- **History:** Built in 1938.
- **Production:** Raises only female triploid (sterile) rainbow trout, to be stocked in waters where interbreeding with native fish is not desired. The hatchery eventually will be New Mexico's rearing facility for native Gila trout.
- **Current status:** Operating at full capacity.
- **Information:** (575) 539-2461, [glenwood.hatchery@state.nm.us](mailto:glenwood.hatchery@state.nm.us).
- **Manager:** Stan Long.







## GREEN AND MEAN

### How plants try not to get eaten

By Sarah Wood

Imagine you are wildly popular with wildlife. Rooted to the ground and swaying in the breeze, you are visited by elk, deer, pronghorn, grasshoppers and beetles. Unfortunately, the reason for your popularity is that you are delicious. All these animals want to eat you! Fortunately, you don't have a brain, so this doesn't really bother you. But plants are well-armed with defenses to keep from being nibbled down to nothing.

Like all wildlife, plants need to reproduce (make more plants), get food and avoid being eaten, all without the benefit of running legs, seeing eyes and smelling noses. Plants often reproduce by growing tempting flowers that lure in insects to help fertilize their flowers. Fertilized flowers produce seeds, which are basically the plant's children (except they never need diapers). The seeds are often wrapped up in a tasty packet like an apple. These are pretty and tasty, so their flower and fruits are visited or eaten by animals. Other animals eat the fruit and either spit or poop out the seeds that may grow into an adult plant someday.

Growing fabulous flowers and flavorful fruits requires energy, which plants get from the sun, but they need chlorophyll to help them. Chlorophyll is why leaves, needles, cactus pads, stems and pine needles look green. Chlorophyll changes the sun's energy into food for the plant. Imagine sitting out in the sun and, instead of getting a tan, you turn green! Being green is very important to plants to protect themselves. Plants try to stab, poison, or give upset stomachs to the animals that try to eat them.

#### Ouch!



**Prickly pear: Ouch!**

The swords and knives of the plant world are spines, thorns and prickles. In New Mexico, juicy cactus plants are great sources of food and water, so cacti have lots of spines all over their stems. Some cacti have hundreds of tiny soft spines near their flowers. These look like yellow fuzz. Once they go into the skin, even smaller "branches" pop out, making them very hard to remove. It's a good idea to completely avoid the spines of a cactus. Animals like rabbits and mice that eat cactus are very careful to nibble between the spines.

Thistles are covered with spines on their flowers and leaves. When thistles are young, their spines are soft and animals like deer and pronghorn eat a lot of them.

#### There's sand in my cereal

Humans eat lots of grass seeds, like corn and wheat. But try eating a blade of grass and you'll find out what elk, bison, grasshoppers and sometimes deer and pronghorn go through. Grass blades, as their sharp name suggests, are tough and difficult to chew. The toughness comes from silica, which is in sand



Photo: Marti Niman

**One look at the sharp spines of an agave is enough to make you keep away.**

and used to make glass. It's hard to eat food with bits of sand in it, so animals eat more slowly.

So how do animals deal with all this sand in their diet? Animals that eat mostly plants, called herbivores, have special teeth and stomachs. Their teeth are very large, flat and sharply ridged for grinding up tough grass and other plants. If you've ever been bitten by a horse, you know how big and sharp their teeth are. Some animals, like deer, elk and other animals with hooved feet, have four stomachs. No wonder they are always hungry!

#### Good smell, bad taste

Many New Mexico plants, like sage, spice bush and evergreen trees, have a piney or lemony odor. Their leaves contain little oil glands that make a plant smell good but taste very bitter. The odors may be a warning to animals that says, "Eat me and you're



**Grass: Hard to chew.**



**Pine needles: Yuck!**

going to have an upset stomach!" Some plants even make more of these oils when they are bitten. Look at a leaf of a smelly plant through a magnifying glass to see these oil packets. They look like dark or yellowish spots.

#### A dose of poison

Some plants contain really nasty poisons that can make animals very sick. Wild poppies, morning glories and milkweed have poisons that can cause a severe case of the throw-ups, incredible thirst and severely affect the nervous system and the heart. Who would dare to eat such a plant? Perhaps the most well-known example is the monarch butterfly. The caterpillars of this butterfly chew on milkweed and have become immune to its poison. They also bite into the main vein of a leaf, which cuts off the flow of poison to the leaf where they want to eat. Birds and other predators know better than to eat this orange and red butterfly, which now packs a poisonous punch thanks to its early diet of milkweed.



**Datura: Poison!**

#### Eat your veggies

I know what you're thinking. Vegetables really are bad for me! And you're sort of right, but we have ways of making vegetables work really well for us. Take broccoli. Its somewhat bitter taste is from a chemical that fends off hungry animals. Surprisingly, chewing transforms this substance into another one that has anti-cancer properties, which is why everyone says broccoli is good for you. Eat up!



Photo: Dan Williams

**Pronghorn antelope are able to eat the fruits of the cholla cactus without feeling the spines.**

*Sarah Wood is manager of the new Cerrillos Hills State Park.*

