



Photo: Leland Pierce

Return of the toad

State and federal agencies in two states combine efforts to restore the boreal toad to its native wetlands in far northern New Mexico.

Please see Page 8.

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



Published by
The New Mexico Department
of Game and Fish

New Mexico wildlife



www.wildlife.state.nm.us

VOL. 53, NO. 3 — Fall 2008

Comeback of the century



Photo: Don MacCarter

New Mexico elk: zero to 90,000 in 100 years

By Dan Williams

One hundred years ago, there wasn't an elk to be found anywhere in New Mexico. The last of the Rocky Mountain elk had been killed and eaten by hungry soldiers, miners and homesteaders who settled the West. A few years earlier, the Merriam's elk saw their final days in southern New Mexico.

Today, with help from hunters, ranchers and other wildlife conservationists, the species has made a truly remarkable comeback. A few elk stocked here and there across the state have multiplied into tens of thousands, creating outstanding opportunities for hunters and wildlife watchers while bringing needed dollars to rural economies.

"In a relatively short time, we've gone from zero elk to nearly 100,000," said Lief Ahlm, Northwest Area Chief for the Department of Game and Fish, whose area includes some of the state's prime elk herds. "Today we're seeing them in Tucumcari, on the prairies, even along the San Juan River in Farmington. Without the market hunting, elk tend to thrive wherever they go."

This year, elk were venturing back into their historic ranges along the Rio Grande bosque, Chaco Canyon, White Sands Missile Range. A small herd was even spotted along the Santa Fe River. Although the Merriam's could not be recovered and went extinct, Rocky Mountain elk imported from Yellowstone Park thrived as soon as they hit the state.



Photo: Don MacCarter

Elk calves are born in late May and June, and weigh 30 to 40 pounds.

"Elk are hardy animals and we're seeing elk move into areas where we've never seen them before," said Stewart Liley, the Department's elk biologist. "We definitely have moved from elk restoration into elk management. It's remarkable when you think about it."

Today's elk herds in New Mexico are so remarkable that hunters are willing to pay \$10,000 to \$14,000 for a first-class, guided hunt for a trophy on private ranches such as Vermejo Park or Chama Land & Cattle Co., or on tribal lands of the Mescalero and Jicarilla Apaches. More typical prices for guided elk hunts are around \$4,000. Hunters who are successful in the annual drawing and go on their

... continued on Page 14



Lesser prairie chicken hunt on hold

The State Game Commission Chairman and the Director of the Department of Game and Fish have determined that hunting permits for lesser prairie chickens will not be issued for 2008 while a decision is pending from the U.S. Fish and Wildlife Service about whether the species will be listed under the Endangered Species Act. The Commission and Department want more time to ensure that any future provisions for lesser prairie chicken hunting in New Mexico are consistent with intended conservation outcomes.

July 21, the State Game Commission approved a structure for limited lesser prairie chicken hunting in New Mexico that could have begun as early as fall 2008. The structure would have allowed as many as 50 hunting permits with a bag limit of two birds per permit.

“Given the strong public interest in protecting this species, it’s prudent for us to take more time to work with our partners to assure that we continue to take the best approach for conserving this species and its habitat,” said Dr. Tom Arvas, State Game Commission Chairman.

Operation sends 35 bighorn sheep to new homes

The Department of Game and Fish trapped 35 Rocky Mountain bighorn sheep on Wheeler Peak and moved them to supplement existing herds in the northeastern and southwestern areas of New Mexico during an operation Aug. 14-16.

Twenty-seven sheep, including 16 ewes, six young rams and five lambs, were released in the Dry Cimarron area in the far northeastern corner of New Mexico. Those sheep will join an existing herd of about 45 sheep in New Mexico and another 50 just across the border in Colorado.

Six ewes and two lambs were taken to Turkey Creek in the Gila National Forest. They will supplement an existing herd of about 70 sheep there.

New Mexico’s total population of Rocky Mountain bighorns currently is about 1,000, according to Bighorn Biologist Eric Rominger. That’s up from about 600 in 1998. Herds are beginning to reach capacity for the habitat in some areas, which enables the Department to offer more hunting opportunities while trapping and transplanting animals to



Photo: Dan Williams

Lesser prairie chicken

A variety of conservation and sportsmen interests expressed concerns that even a limited lesser prairie chicken hunt could conflict with long-term conservation practices that are underway and planned.

The Department of Game and Fish, along with many public, private, and business partners have been engaged in extensive lesser prairie chicken conservation practices for more than 20 years. Those efforts have more than doubled the population in New Mexico since 2001.

“By working together with key partners, the lesser prairie chicken has made a significant comeback. We now are at a new stage where we must evaluate new practices in promoting broad-based conservation on public and private lands,” said Dr. Bruce Thompson, Director of the Department of Game and Fish.

The State Game Commission has numerous properties under specific habitat management for lesser prairie chickens and is in the process of establishing more areas. Private landowners and conservation organizations manage their lands similarly, while more efforts are needed and are being organized. Rural communities embrace the vision of prairie chickens while providing stimulus for their local economies.

The lesser prairie chicken habitat includes parts of Colorado, Kansas, New Mexico, Oklahoma, and Texas, with some of the most substantive conservation efforts under way in New Mexico. Limited hunting for lesser prairie chickens currently is provided in Kansas and Texas.

Statewide roadblocks planned during hunts

The Department of Game and Fish will conduct roadblocks throughout the state this summer and fall in an effort to collect hunter harvest data and to apprehend game law violators.

Hunters may encounter minor delays as conservation officers check licenses and compliance with registration requirements and safety provisions of the Off Highway Motor Vehicle Act.

Drivers of vehicles hauling wood products will be asked to produce documentation required by the Forestry Conservation Act.

Department of Game and Fish officers may be assisted by other law enforcement agencies, including the U.S. Forest Service, Bureau of Land Management, New Mexico State Police, and county sheriff’s department officers.

To report a violation, please contact your local conservation officer or call the toll-free Operation Game Thief hotline at (800) 432-GAME (4263). Callers can remain anonymous and earn rewards for information leading to the apprehension of game law violators.



Department file photo

Helicopters are used to transport trapped bighorn sheep out of the wilderness.

supplement smaller herds.

Population estimates currently show about 300 sheep in the Wheeler Peak area, 300 in the Pecos Wilderness, 80 in the Latir Wilderness, 70 in the Dry Cimarron, 60 in the Rio Grande Gorge, 30 in the Manzano Mountains, 70 at Turkey Creek, and 90 in the San Francisco River area.

Outfitter, game-park owner pleads guilty

A former outfitter and owner of a private elk hunting park faces penalties of more than 4 1/2 years in jail and a minimum of \$10,000 in fines and restitution after pleading guilty to illegally transporting wild elk and receiving stolen bighorn sheep heads.

Kirt Darner, 69, also agreed never to hunt, fish or possess a firearm in his lifetime, and never again to operate as a guide or outfitter in New Mexico or Colorado. Cibola District Court Judge Camille M. Olguin accepted the plea agreement June 23. Sentencing will be at a later date. His wife, Paula D. Darner, 51, faces related charges.

Darner, a nationally known big-game hunter and guide, and Paula Darner were co-owners of the 40-acre Lobo

Canyon Ranch north of Grants when they were indicted on multiple charges related to the possession of two trophy bighorn sheep heads and the illegal transport of stolen live elk.

The Darners were accused of illegally moving three state-owned elk from the Lobo Canyon Ranch to the Pancho Peaks ranch and game park in southeastern New Mexico in 2005. Kirt Darner was paid \$5,000 for each elk.

Department of Game and Fish officers



Kirt Darner

who executed a search warrant at the Darner property in 2005 discovered a desert bighorn sheep head and a Rocky Mountain bighorn sheep head inside a vehicle. Further examination of the heads indicated they were stolen from a Montrose, Colo., taxidermy shop in 2000. The Colorado Division of Wildlife had offered a \$4,000 reward for information about the sheep-head thefts.

The investigation involved close cooperation among the 13th Judicial District Attorney’s Office, the Colorado Division of Wildlife and the New Mexico Department of Game and Fish.

The Darners currently live in Crawford, Colo.

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New Mexico Wildlife is published by the Public Information and Outreach Division, N.M. Department of Game and Fish.

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Printed in the United States under contract with the State of New Mexico.

Volume 53, Number 3

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Elk, pronghorns looking good in NE

By Clint Henson

As hunting season approaches, phones begin to ring at Department of Game and Fish offices as hunters are asking where the big ones are. Hunters should again be pleased with rainfall that has the grass green and helped to reduced persistent fire dangers. As always, hunters should study the Big Game Rules and Information booklets and start with a good map of the hunt area.

Elk

Elk population levels have remained stable to increasing over the entire elk range in the northeast. The possibility of finding a trophy bull is good in all units. If hunters are finding it hard to draw an elk hunt, contact the Raton Game and Fish office for a list of private ranches that have elk permits. Most ranches sell permits, and prices can be surprisingly reasonable for bull and cow hunts.

Deer

Deer populations are on a gradual increase in areas where precipitation and habitat conditions have been favorable. However, even with lower total numbers, antler production is good on deer seen this summer, so



Photo: Clint Henson

Pronghorn populations have increased in northeastern New Mexico.

some big ones are out there. Past changes to the draw hunts on public lands have greatly improved the hunt quality and it is expected that mandatory harvest reports will show an increase in overall hunter success.

Pronghorn

Pronghorn also have increased in numbers in the northeast. However, a dry spring may have had a slight negative impact on the trophy quality of the bucks. Remember that hunters can no longer drive off-road on State Trust Lands to retrieve down game.

Turkey and small-game hunting should be good this year, especially on private land where hunters can acquire written permission to hunt.

Forest Service lands provide great opportunities to take your kids out and practice calling or just walking together looking for squirrels and grouse.

Bears

Bears are still busy raiding many urban areas in search of easy food. Hunters are encouraged to contact



private landowners that may allow hunting opportunities. Watch for public lands that hold acorns and attract bears before denning.

Visit the Department Web site, www.wildlife.state.nm.us, for information on Open Gate. Two private areas in the northeast have been opened for public dove hunting. Landowners interested in leasing access to public hunters are encouraged to call for more information about the program.

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.

Southeast hunting forecast improves with summer rains

By Mark Madsen

A few months ago, the hunting forecast for fall looked pretty gloomy in southeastern New Mexico. After a hot, dry spring and early summer, the countryside looked dismal, with no green-up to be found anywhere. Then the monsoons started, and the country turned green overnight.

Well, maybe not overnight, but it sure seemed that way. The moisture and subsequent green-up is certainly going to be beneficial to New Mexico's wildlife, including all of our game species. The overall hunting forecast for this fall should be good for big-game and small-game hunters.

Elk

Elk hunters headed for southeastern New Mexico can also expect to have a good hunt this fall. The elk herds in game management units 34, 36, and 37 are doing great. Overall numbers are excellent with high bull-to-cow ratios, especially in Units 34 and 36. Hunters willing to do a little homework -- and a little footwork -- will have an excellent hunt.

Given the abundant rainfall, the elk will be scattered from the higher-elevation dark timber to the lower-elevation piñon-juniper country throughout all three southeastern New Mexico units. Don't forget to check the numerous burns that have occurred in these units. The forage and cover in the burn areas is coming back with the good rains and these areas should hold a lot of elk this fall.

Deer

Hunters lucky enough to draw public-land deer permits should have a good chance of at least seeing some legal bucks during their hunt. Many areas of southeastern New Mexico have had good fawn survival over the last

couple years, with many of those fawns making it through the mild winters.

Aerial surveys have shown better-than-average buck-to-doe ratios in many areas in the southeast. That means there are plenty of legal bucks out there. Widespread rainfall will result in the deer being scattered throughout favorable habitats in most of the southeast game management units. The deer herds in game management units 30, 34, and 37 are holding their own and should provide good hunting opportunities this fall.

December surveys in the Mescalero Sands country of units 31 and 33 showed that several decent bucks survived the fall hunts. Now all you have to do is be lucky enough to bump into one of them during your hunt and hope he stands still long enough for a shot!

Barbary sheep

The forecast for Barbary sheep looks promising again this winter. Hunters were very successful last year with lots of sheep being seen and harvested. Barbary sheep numbers appear to be increasing with sheep being reported in many areas not normally considered good barbary sheep habitat. Barbary sheep hunters can expect to have a good hunt this winter, especially in game management units 30 and 32.

Reports indicate hunts in other units with Barbary sheep will be slow. Hunter numbers have increased significantly, especially in public-land areas with easy access, so hunters can expect to hunt a little harder and walk farther to be successful this winter.

Pronghorn and javelina

The hunt forecast for pronghorn and javelina also look good for this fall. Pronghorn numbers are up slightly



Photo: Dan Williams

Hunters should find plenty of scaled quail this season in southeastern New Mexico.

due to the good fawn survival from the last couple of years. Better-than-average buck-to-doe ratios have been observed in many antelope management units.

Javelina numbers appear to be increasing along with their occupied range in southeastern New Mexico. To be successful for javelina, hunters are going to have to spend some time in the field to locate small groups that are scattered throughout game management units 29, 30, 31, 32, 33, and 34. Game management units 29 and 30 will still provide javelina hunters the best opportunities.

Small game

Small-game hunters can expect an above-average year. Quail reproduction started out slow due to the lack of spring and early summer rains. In early August, we've started seeing a few "cotton balls" running around, indicating a late hatch this year. Surviving chicks should have good chances given the good range conditions.

The good news about the quail forecast is that we had a lot of quail left over from the bumper crop last year. Scaled quail hunting should be good in the sand country of eastern New Mexico and in the foothills of the Sacramento and Guadalupe Mountains.

Dove season looks promising, especially in the Pecos River Valley. Good numbers of mourning dove and white-wings are still being found throughout the valley. Eurasian collared-doves are increasing in occupied range and in numbers.

The pheasant forecast looks really good for this winter, especially in the Clovis-Portales area. Most of the better pheasant hunting takes place on private land so make sure and get written permission to hunt.

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.



Make the most of your wild meat

By Ross Morgan

Finally, the day you have been waiting for arrives and you set out in hopes of harvesting an elk or deer to fill the freezer. Once the hunt is over and the animal is on the ground, the real work begins. Everything you do from this point on will affect the taste of the meat you enjoy at home for months. Although it may seem this is where the actual care of your game begins, game-care actually starts weeks to months before the hunt.

Preparing for the hunt

One key component of proper game care begins months before the hunt by sighting-in and practicing with the firearm or bow that you will be using, as well as preparing for the trip itself. Why is practicing with your gun or bow so important? Animals that have been shot multiple times or shot in the gut can result in badly damaged meat. Besides the physical damage that can be done by poor shooting, wounded animals pump adrenaline and enzymes in the meat that can cause toughness and a “wild” or “gamey” flavor. So it’s beneficial to invest the time to get familiar with your bow or firearm so you know your capabilities and limitations.

A hunter also should make sure to pack the essentials needed for the hunting trip. Those include a saw, tarp, sharpening stone, several sharp knives, and some rope or twine to help when field dressing the animal. Don’t forget one very important item -- your license and other appropriate permits and validations.

Field dressing

For the most part, field dressing is done the same by all hunters. However, there are many modified versions and most of them are effective. If you are going on your first hunt or have never had the opportunity to field dress an animal before, consider buying a book on field dressing animals or asking someone who has done it before to help the first time.

Keeping the meat clean is the most important part of the process so it’s a good idea to lay a tarp on the ground and place the animal on it when field dressing and skinning. This will help keep dirt and other foreign objects out of the meat. Once the animal is field dressed, the first thing you will need to do is start the cooling process. The first hour is critical to keeping bacteria from multiplying.

Caring for the meat

Once the animal has been field dressed, the next step is to cool the meat. Because the hide can act as an insulator holding in heat, the animal should be skinned as soon as possible. Once the animal is skinned, hang it off the ground in a shaded area where the air is able to circulate.

If you need to cover the carcass to keep the flies off, be sure to use an old sheet or loosely fitting game bags that cover the meat and still allow circulation. Plastic sheeting or tarps should never be used because the material holds in heat and could spoil your meat.

When daytime temperatures are high,



Photo: Marty Frentzel

This young buck made for some fine eating for George Tasch, a Hunter Education Instructor from Los Lunas.

the next priority should be getting the meat out of the field and ready for processing. One thing to watch out for is placing the meat in an ice chest and allowing the ice to melt. Moisture enhances bacterial growth and increases the risk of spoilage.

Washing your meat is recommended, especially by cutting off areas damaged by the bullets, and by wiping dirty areas. Always allow the meat to dry afterward. A wet rag works great for cleaning the meat.

Many hunters prefer cutting and packaging the meat themselves. If

you plan on using a professional meat processor, talk to them before the hunt and ask them how they would like the meat brought in. Some prefer the animal be quartered as opposed to boned-out.

The feast

Once the animal is packaged and placed in the freezer, you are ready to start enjoying it. One common mistake people make when preparing game meat is overcooking it. This is due to the low amounts of fat. Don’t be discouraged, there are many wild-game recipe books available on the market.

Survival education, preparation can save your bacon

By Ross Morgan

Every year, hundreds of hunters get lost in the back country and some of them die from exposure. Many of these hunters could have been rescued if they had taken a little time before the hunt to prepare a survival kit and learn basic survival skills. Participants in survival workshops are often surprised how unprepared they really are to spend a night or two in the woods.

“To save your life, a survival kit doesn’t have to be big, it just has to be with you,” says John Solomon, a New Mexico Hunter Education Instructor and facilitator of Survival for Hunters Workshop. “Although putting together a survival kit may seem like a bother, people should view it as an ultra-light insurance policy that could save your life,” he says.

Survival kits come in many different sizes ranging from “ridiculously large” to “you-have-got-to-be-kidding-me small.”

The basics

Here is a list of basic items to include in your hunting gear.

- Knife.
- Cell phone.
- Fire-starting items (waterproof and enough for three fires).
- Water collection-purification items (metal cup, filter, iodine tablets, etc.).
- Plastic whistle.
- Signal mirror.
- First aid kit (Don’t forget personal medications).
- Extra Compass or GPS with extra batteries.



Don’t forget your flashlight.

- Flashlight or headlamp, and extra batteries and bulbs.
- Shelter material (poncho, tarp, plastic or space blanket).
- Rope or cord.
- Snare wire and-or fishing kit.
- Energy food.

Preparation is paramount when dealing with survival. We spend hours preparing food, sighting-in our guns and packing our gear before the hunt. Hunters who invest extra time preparing a survival kit with the necessary items could save their life some day.

When preparing for your trip, ask yourself if you are covering all the bases: What should I carry? What should I wear? Did I do my pre-trip planning? Did I prepare a hunting

itinerary? If you answer yes to these these questions, you are going to be one step ahead of the game if something happens.

Each hunting trip is different, so what you carry will vary each time. However, the basic items that a person will carry in their survival kit will not. Clothes should wick away moisture, insulate the body. Don’t forget rain or snow gear.

Pre-trip planning is important. Watch the weather forecast and study maps of the area you plan on hunting. Finally, complete an itinerary that includes personal information, where you are going, vehicle information, who you will be with and when you plan on returning. This information should be left with a responsible adult.

Survival strategies

By understanding these four things, your chance of surviving a night or two in the field will increase. Remember, each situation is going to be different based on the circumstances.

• **Prioritize your needs:** How much daylight is left? What is the weather doing or going to do? What is my physical condition? What resources do I have available? What are my signaling abilities? If a snow storm is moving in and you fail to prioritize, you can put yourself in danger.

• **Sustenance:** Never eat a lot unless you can drink a lot; always worry about water before food; conserve energy; purify all water if possible and look for options, thinking long-term. If in doubt,

don’t eat it; mushrooms as well as other plants can be deadly.

• **First aid:** Keep small problems from becoming big problems such as blisters, cuts, frostbite and dehydration.

• **Signaling and rescue:** If you need help, use a cellular or satellite phone, two-way radio, personal beacon, whistle, mirror, and smoke and fire. Cellular phones aren’t very reliable in most mountainous areas, but it never hurts to check the signal if you end up in a bad spot. You never know. Fire and shelter are most important if you unexpectedly have to spend the night in the back country.



Fire and shelter -- essential.

Fire provides warmth, cooking, signal and comfort. When looking for a good site to have a fire, survey for resources, find a protected area, clear the ground to bare soil, and if there is snow, be aware of overhead branches. Shelter is equally important. There are two types of shelters, manmade and natural and both are very effective. Manmade shelters can be constructed with tarps and ponchos. A natural shelter can be a cave or a something made from natural materials, such as an A-frame, lean-to or wickiup.



‘It’s all about the wildlife’

Plenty of room for animals, visitors at Sargent area

By Dan Williams

Residents of the Chama Valley call it heaven in their own back yard. The Edward Sargent Wildlife Area makes that kind of impression, whether you live next to it or not.

“It’s a very special place with a lot going for it,” said Brian Gleadle, the Northwest Area chief for the Department of Game and Fish. He lived and worked in the area recognized as one of the agency’s most prized havens for wildlife.

“I guess the thing that makes it so special is its simpleness,” Gleadle said. “Because it’s such a large parcel of land with single ownership, wildlife are able to use it freely -- without disturbances.”

Home to New Mexico’s state elk herd, as proclaimed by Governor Bill Richardson in 2004, the Sargent encompasses 20,209 acres of some of the state’s most impressive scenery and wildlife habitat. The State Game Commission purchased the property from the Nature Conservancy in 1975 for \$2.2 million. It is named after Edward Sargent, a Chama area rancher who was New Mexico’s lieutenant governor from 1925-28.

Because the Sargent area was bought with federal funds derived mostly from taxes on hunters and anglers, the area is managed specifically for wildlife. Its purchase originally was intended to provide excellent elk habitat and to increase hunting opportunities. Uses are limited to hunting, fishing and other wildlife-associated activities.

The Sargent is considered one of the state’s top hunting areas. Licenses for elk, turkey and bear are limited to a lucky few who are successful in the annual drawings. The area is also open to grouse hunting in season. Anglers can find brown trout and cutthroat trout in Chamita Creek, the Rio Chama and in small Nabor Lake, located off an old road near the area’s center. Motorized vehicles are prohibited except for official use, so access is limited to hiking, horseback or mountain bikes.



“How we manage access to the Sargent is all about the wildlife,” said Mike Gustin, the Department’s assistant chief for wildlife habitat. “Every activity on the area, whether it is hunting, fishing, mountain biking, horseback riding or skiing,” has to be related to wildlife in some way.”

The area recently was opened to wildlife-associated recreation other than hunting or fishing through the Department’s Gaining Access Into Nature, or GAIN, program. All visitors of the area ages 18 or older must have either a year-round or a five-day GAIN permit, and a Habitat Management and Access Validation. Costs for the permits, including the validation, are \$19 for a full year, \$8 for five days. Licensed hunters and anglers do not need GAIN permits during hunting or fishing seasons, but need permits outside those seasons.



GAIN permits allow visitors to enjoy wildlife while hiking, biking or horseback riding on designated trails and roads. A designated area is set aside for snowmobiling Dec. 1-Feb. 29, and camping will be allowed in a designated area July 1-Nov. 15, and during hunting seasons.

All activities will be restricted during elk calving season, and non-hunting activities will be limited during hunting seasons.

The Department is planning several improvements to the area to help visitors appreciate the Sargent’s magnificent elk herd. Best viewing times are early mornings and late evenings in summer and fall.

For more information about GAIN and the Edward Sargent Wildlife Area, please visit the Department Web site, www.wildlife.state.nm.us and click on “Wildlife Adventures.”

Scenery at the Edward Sargent Wildlife Area is hard to top, whether you’re enjoying the fall colors and early snow, left, or a summer day of fishing and relaxation on Chamita Creek, right.

Photos: Don MacCarter, left; Marty Frentzel, right.



Return of the toad

Restoration effort brings natives back to NM

By Leland Pierce

On a warm day in the middle of June, two boys fishing at Trout Lakes spotted something new and ran over to have a look. They were used to seeing New Mexico game warden trucks, but not ones with the bighorn sheep emblem of the Colorado Division of Wildlife.

People were standing in the truck bed, dipping nets into large water tanks and putting something into five-gallon paint buckets. When given permission to look into the buckets, the boys saw tadpoles, thousands of jet-black bodies swimming in sharp contrast to the white buckets. The boys grew excited to see something cool, perhaps not noticing that the adults present were every bit as excited as they were.

It's not every day that a native species is returned to its home in New Mexico.

The boreal toad was first discovered in northern New Mexico in 1966 at Lagunitas Lakes, and later at Canjilon and Trout Lakes, all in Rio Arriba County. By the mid-1980s the species began to decline in numbers, and by 1993 the boreal toad was no longer in the state. The last confirmed sighting was in 1986 at Lagunitas Lakes. The subspecies, *Bufo boreas boreas*, has shown similar declines and population extirpations in Colorado, Wyoming, and Utah, likely victims of a non-native chytrid fungus.

A recovery team was formed to bring back the "Southern Rocky Mountain Population" of the boreal toad in 1994, with Department of Game and Fish Herpetologist Charlie Painter serving as a charter member. The Colorado Division of Wildlife began rearing the species at the Native Aquatic Species Restoration Facility in Alamosa. A standing offer was made by the recovery team to rear tadpoles from populations near the New Mexico border, should the Department ever seek to repatriate the toad.

In 2006, the Department completed a recovery plan for the state-endangered boreal toad. Surveys were conducted, but no toads were found. Meanwhile, at the restoration facility in Alamosa, breeding stock for New Mexico boreal toad populations were aging. With egg production at risk, the Department decided to move ahead with repatriation.

Biologists with the Department of Game and Fish and U.S. Forest Service decided the best place to return the toads to New Mexico would be one of the last spots the toads were seen. They chose a pond in a marshy area near Trout Lakes -- a place not very popular with cattle, elk or people.

Based upon repatriation efforts in Colorado, tadpoles were determined to be the best stage to use for the initial stocking. Another lesson learned was to stock the tadpoles in one locality, as opposed to spreading them across several sites, following the "selfish herd" effect, where the odds of each individual tadpole being eaten by a predator are less. The more tadpoles in the pond, the better chance some will survive. This is important because to predators, tadpoles and toadlets fresh out of the pond are like the



The New Mexico Department of Game and Fish, U.S. Forest Service and Colorado Division of Wildlife stocked 4,000 boreal toads in a northern New Mexico pond this summer. The toads face an uphill battle for survival, as they are favorite foods of predators including water beetle larvae, below.

Photos: Dan Williams



popcorn shrimp at the buffet. Almost everything, including larval insects, fish, snakes, birds, and mammals, eats them.

So that June afternoon, bucket after bucket, each filled with wriggling tadpoles, were carried to the restoration site. The tadpoles came from adults taken from Mineral County, Colo., and reared at the hatchery in Alamosa. The more than 4,000 tadpoles also were certified to be disease and chytrid fungus free by a veterinarian with the Colorado Division of Wildlife. Before the tadpoles were released, pond water was added to each bucket to equilibrate temperature and pH.

At approximately 3:30 p.m. June 17, 2008, the boreal toad returned to New Mexico. The tadpoles quickly began exploring their new home. Within 10 minutes one tadpole fell victim to a water beetle larva. After two weeks, all the tadpoles had moved to a spot where the shore was very shallow and the water warm. A week later, the first tadpole with legs was seen and, after five weeks, the tadpoles had turned into half-inch toadlets, moving into the pools and streams nearby. How many made it out is



Photo: Stephen Corn

Boreal toad (*Bufo boreas boreas*)

Description: Two to three inches long. In the wild, they are black with a pale stripe down their back.

Habitat: Found in riparian areas at elevations above 8,000 feet.

Diet: Insects.

Growth rate: Male toads take four years to reach maturity and females six years because of the short growth period available to them from living at such high elevations.

Reproduction: Toads lay between 3,000 and 10,000 eggs per clutch in long, black strings. Eggs turn into tadpoles and, after a month or more, the tadpoles turn into toadlets and leave the water.



unknown. Biologists hope 500 to 1,000 left the pond as toadlets. Many didn't make it: One month to the day after it had been released, another tadpole was seen taken by another water beetle larva.

With good fortune, some of the toadlets will pack on some weight over the remaining warm days, then go up into the roots of the nearby forest and hibernate through the winter. Some will continue to grow and mature. The Department, U.S. Forest Service, and Colorado Division of Wildlife plan to continue stocking efforts over the next few years and monitor the results.

The repatriation will be declared a success if there is reproduction by the offspring of the offspring of the original tadpoles. For the boreal toads, that could take 10 to 15 years -- and a lot of perseverance. The species will have to survive long winters, early and late snow storms, countless predators, and perhaps even droughts to get to that point.

The boreal toad faces long odds to make a comeback in New Mexico. But perhaps the two boys who saw the first of the tadpoles will one day take their own children to go fishing at Trout Lakes, and maybe, just maybe, their children will squeal with delight over seeing something cool -- a little black toad hopping by.

The boreal toad will have made its return.

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Fungus threatens amphibians worldwide

By Leland Pierce

Many theories have been proposed for the decline of amphibian populations worldwide, including habitat destruction, global climate change, ultraviolet radiation, and disease. However, the likely cause for the decline of the boreal toad throughout its range in North America is the non-native, chytrid fungus (*Batrachochytrium dendrobatidis*).

The fungus infects the skin of amphibians, leading to thickening of the skin and production of toxins. Because amphibians use their skin for respiration and water absorption, infection by the fungus is lethal to many species, including the boreal toad and the Chiricahua leopard frog.

The fungus apparently originated in southern Africa and reached North America by way of an invasion into and up from South America. How the fungus is spread is not entirely understood, but it appears it can attach to an object such as the foot of a duck, elk, or angler, and then survive transit to new waters.

Batrachochytrium dendrobatidis, was first discovered in New Mexico in 2000, infecting populations of the Chiricahua leopard frog in the southwest part of the state. Of the three original localities for the boreal toad, Lagunitas, Canjilon Lakes and Trout Lakes, only amphibians from Canjilon Lakes have tested positive for the fungus.

Scientists including Cynthia Carey of the University of Colorado are working diligently to determine how the fungus affects the boreal toad and how to manage the impact of the fungus.

Presently, Trout Lakes have tested negative for the fungus. The exact location of the boreal toad repatriation, while well out of the way, is being kept quiet to avoid accidental infection of the area.

Everyone who visits amphibian habitat in the wild is urged to take precautions to prevent the spread of chytrid fungus:

- Don't touch frogs and other amphibians, and encourage children not to try to catch them.
- Clean and dry fishing waders and equipment before using them in other waters. Even muddy vehicle tires may carry the fungus from one location to another.
- Never move an amphibian from one water to another.



Photo: Charlie Painter

Chiricahua leopard frog



Photos: Dan Williams

Biologists with the New Mexico Department of Game and Fish stocked 77,000 largemouth bass in Elephant Butte Lake on July 8. The fingerling bass were the first raised at the state's new warmwater hatchery in Santa Rosa and should be 14 inches long in two to three years.

Warmwater hatchery's 1st bass stocked in Butte

By Dan Williams

The first 77,000 largemouth bass raised in New Mexico's new warmwater fish hatchery swam into history July 8 when they were released in Elephant Butte Lake.

The bass paved the way for many future stockings as Rock Lake Hatchery near Santa Rosa uses its 11 new one-acre ponds to raise bass, catfish, walleye, bluegills and other warmwater fish species.



"This is an exciting time for the hatchery and for the state's anglers who enjoy catching warmwater fish," Hatchery Manager Leonard

Rice said. "This also is a learning experience for us because we've never done this before."

The bass were hatched at the Las Animas Hatchery in Colorado and arrived at Rock Lake on June 13 when they were about 1/2 inch long. A steady diet of zooplankton helped the fish grow to about 1 1/2 inches. Warmwater Fisheries Biologist Casey Harthorn said the bass should grow to 14 inches in two to three years.

The \$4 million first phase of the warmwater hatchery project was completed last fall. Since then, hatchery crews have been working to create pond environments suitable for raising a variety of fish species. Fish are placed in the ponds once the water is producing enough phytoplankton and zooplankton that the fish need for nourishment and growth. Once the fish eat all the available zooplankton, they are removed from the ponds and stocked in one of the state's lakes.

The Rock Lake Hatchery ponds also currently hold about a million catfish that should be ready for stocking later this summer, Rice said.

Funding for the first phase of hatchery construction included \$2.5 million from the state Game Protection Fund, which comes from hunting and fishing license sales; \$900,000 in federal grants; and \$300,000 from the

state's General Fund, authorized by the 2004 Legislature.

In operation since 1964, Rock Lake Hatchery is one of the state's top producers of catchable-sized rainbow trout. With its constant flow of 3,500 to 4,000 gallons of cool, clear spring water per minute, the hatchery raises about 300,000 trout a year in its raceways for stocking in the state's streams and lakes. The hatchery also raises about 20 million walleye every year, about half of them from eggs collected from Conchas and Ute reservoirs.

Rock Lake Hatchery welcomes visitors at its facilities two miles south of Santa Rosa along the Pecos River. Hours are 8 a.m. to 5 p.m. every day. For information, please call (575) 472-3740.



Dominic Chavez, left, and Leonard Rice of Rock Lake Hatchery pushed bass into a small area of a "kettle," in one of the hatchery's new warmwater fish rearing ponds. The fish were caught in nets, loaded into a truck and stocked in Elephant Butte Lake.



Doors open soon to new park

Wetland sights, sounds await Mesilla Valley Bosque visitors

Story and photos by Marti Niman

A low humid buzz pervades the air, punctuated by metallic gurgles, rattling trills, whooshing reeds and harsh rusty-hinge squeaks. Redwing blackbirds sway among the cattails in an avian rendition of a “Crouching Tiger, Hidden Dragon” martial arts scene. Hummingbirds and dragonflies flaunt their iridescence in a show of light.

This is the wetland at the new Mesilla Valley Bosque State Park, a raven’s hop from the rapidly growing desert metropolis of Las Cruces. A complex tangle of land ownership was slowly unraveled throughout the years by grass-roots and multi-agency efforts to make way for a rebirth of the old bosque -- or “Old Refuge,” as it is known locally -- into a vital state park serving community needs. The park’s opening this fall, however, is just the beginning.

“This is a true partnership park,” State Parks Director Dave Simon said. “We are grateful to all who helped launch this environmental, cultural and economic asset to the region and the state.”

“This is such a vast project and we want to do this park right,” Park Manager Stan Ellis said. “It’s going to be years before it all is realized.”

The Rio Grande bosque in southern New Mexico was once a mosaic of marshes, shrublands, grasslands and deciduous trees such as Rio Grande cottonwood, Gooding’s willow, screw-bean mesquite and velvet



The main entrance to the Mesilla Valley Bosque State Park compound is a zaguan, or sheltered wooden gate, big enough to drive a stagecoach and a six-horse hitch through at a slow gallop.

ash -- home to a rich diversity of native flora and fauna and a respite for migratory birds traversing the Central Flyway. River channelization, irrigation ditches, drains, roads, off-road vehicles and livestock grazing helped open the floodgates to an influx of non-native species such as salt cedar, Russian thistle, kochia, Russian olive and Siberian elm.

Restoration challenges

“We want to restore this area to a remnant of what the southern New Mexico bosque region once was,” Ellis said. “Our biggest challenge right now is removing almost 100 acres of salt cedar with an all-hands-on-deck effort of staff and volunteers that will take years to accomplish.”

Salt cedar will be removed during the winter, the most efficient time for its removal as well as for planting native vegetation. The salt cedar will be removed in phases to accommodate budget restrictions and wildlife that now use both exotic and native plants as habitat.

The park’s nucleus is the 52-acre parcel called

the Old Refuge, which includes the Picacho wetlands -- originally purchased in 1933 by the New Mexico Department of Game and Fish for the stunning sum of \$160. The wetlands were the site of a joint habitat restoration project of the Southwest Environmental Center, the City of Las Cruces and the Department of Game and Fish.

The park’s boundaries have expanded beyond the core wetland area through a complex mélange of leases, conservation easements, grants and negotiations by numerous organizations. Of the current 305 acres allocated for the park, only 13 acres are in State Parks ownership. Plans to add an additional 640 acres of sand hills are under way. A lease agreement is being negotiated with the Bureau of Land Management through the federal Recreation and Public Purposes Act, which ultimately could allow transfer of ownership to the state.

“It’s a careful, deliberative process that requires archeological and biological surveys, NEPA compliance and Federal Register listing for public comment,” said Steve Cary, park resource planner.

Grass-roots organizations in the Las Cruces area have accomplished considerable planning, community organizing, fund-raising and wetland restoration prior to the area’s establishment as a state park.



Grass-roots support

“We’re going to start a park support group, get the public involved and we are getting water rights for the park,” said Ellis, whose verbal leaps from one idea to the next reflect his enthusiasm for the new park. “We hope to get with a neighboring farmer to grow food crops and raise crops for migratory birds. We plan to put in bird viewing stands and have the birds’ presence here day-to-day.”

Many of these plans call to mind another bosque -- the famous Bosque del Apache National Wildlife Refuge near San Acacia, owned and operated by the U.S. Fish and Wildlife Service. Millet and corn are grown there to draw sandhill cranes and snow geese away from local farmer’s fields and into the bosque, where they have a much more appreciative audience. The Bosque del Apache and Rio Grande Nature Center State Park in Albuquerque are the primary templates for volunteers, projects and outdoor education in general at Mesilla Valley Bosque.

“We are emphasizing the restoration aspect while the Rio Grande Nature Center emphasizes conservation,” Interpretive Park Ranger Alex Mares said. “We don’t have a canopy forest like the Nature Center but we have 305 acres of riverside, wetlands, ponds and bosque replanting.”

Although there is no master interpretive plan in place at this time for Mesilla Valley Bosque

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Hundreds of bird species, including American coots, above, and red-winged blackbirds, below, attract birders to the Mesilla Valley bosque in southern New Mexico.



“A true partnership park”

New Mexico State Parks is grateful to the following stakeholders and partners for their support and participation in making Mesilla Valley Bosque State Park a reality:

U.S. Bureau of Reclamation, International Boundary and Water Commission, New Mexico Department of Game and Fish, U.S. Bureau of Land Management, Southwest Environmental Center, Elephant Butte Irrigation District, Trust for Public Land, World Wildlife Fund, New Mexico Audubon Society, Mesilla Valley Audubon Society, Sierra Club, Alliance for Rio Grande Heritage, Citizens Task Force for the Preservation of Open Space in Doña Ana County, Doña Ana County Associated Sportsmen, Harris Farms and many others.





The Organ Mountains and the Rio Grande present stunning sunrise scenery at Mesilla Valley Bosque State Park. The park will have its grand-opening in mid-December and will operate mostly as a day-use facility. It’s mission: to conserve, protect and enhance the natural and cultural features of the bosque and Chihuahuan desert ecosystems and to provide appropriate recreational opportunities.

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State Park, Mares plans to offer multifaceted programs that include specific activities for birding, wildlife tracking, desert and aquatic plants and volunteer training. Portable backpack kits supplied with field guides, binoculars, bug boxes and other goodies will be available for families to use in their own explorations.

The Doña Ana County Associated Sportsmen has funded field guides for staff and volunteers to use with school groups, while the Department of Game and Fish has provided \$140,000 toward exhibits being developed for the visitor center.

Focus on nature, culture

State Parks is contracting with Split Rock Studios, an award-winning Minnesota exhibit design and fabrication firm, to create the exhibits at Mesilla Valley Bosque State Park, said Christy Tafoya, park interpretation and resource manager. “Panels, interactives and dioramas will be incorporated into the design, which centers on the Rio Grande providing a ribbon of bosque oasis where both people and animals congregate,” she said.

The mission of the park is to conserve, protect and enhance the natural and cultural features of the bosque and Chihuahuan desert ecosystems and provide appropriate recreational opportunities. This mission will be highlighted throughout the exhibits, which include the changing face of the Rio Grande, geology, geography and restoration efforts in the area. Visitors will learn about the human occupants of the area, such as past Puebloan groups and Hispanic settlers, as well as current populations. Wildlife will be featured prominently, including beavers, birds, bobcats, coyotes, javelinas, and deer, to name a few.

“We hope these fun, hands-on exhibits will give visitors a context for the wonders they will encounter out in the park,” Tafoya said.



The park’s anchor is the 7,000 square-foot visitor center and administrative complex. It is situated on 4 of the 13 acres in the park that are owned outright by State Parks, purchased from local landowner Buford Harris along with a 142-acre conservation easement.

At a glance, the complex could be a centuries-old adobe village with its walled compound of courtyards, plazas and brick paving that flows uninterrupted into interior rooms and hallways. Massive, asymmetrical buttresses create a solid rhythmic pattern beneath an interplay of flat and pitched roofs.

The main entrance is a zaguan, or sheltered wooden gate, big enough to drive a stagecoach and a six-horse hitch through at a slow gallop. Several smaller gates open to views of the surrounding saltgrass-sacaton flats, while the low western wall opens to a hummingbird and butterfly garden of desert willow, yucca and flowering perennials. Details abound in the carved wood canales, deep shady portals, hammered sconces, paned glass windows and wrought iron hardware. The overall effect is one of timeless serenity, yet one almost expects the likes of Zorro to appear crouched atop a viga.



The 7,000 square-foot visitor center and administration complex includes an exhibit hall, offices, classrooms, concession area, a shop, and plaza courtyards that accommodate indoor and outdoor use.

“This is no government school or shopping center,” said Rob Love, state park architect. “It speaks to hundreds of years of human occupation of the river valley before the industrial revolution, yet hints at the evolution from small agricultural economies to the world we know today.”

Less visible is the ground-source heating and cooling system that operates at 25 percent of the energy demands of a standard system. The shop roof will incorporate a photovoltaic, or solar-powered electric system, which may create enough excess power credit that the facility could function with net zero-energy usage.

The complex houses an exhibit hall, offices, classrooms, concession area, a shop and maintenance yard as well as the plaza courtyards that accommodate both indoor and outdoor use. To the north of the garden, a small amphitheater seems carved into the earth and provides a site for campfire talks and other presentations. Several portable shade shelters provide comfort for a moveable feast of outdoor programs within and beyond the facility.

A world of wildlife

Beyond the facility, the world of wildlife moves independent of human construct and offers an occasional glimpse into their parallel universe. Mule deer and javelina, great blue heron, coots, egrets, beavers, songbirds, lizards and snakes of all varieties come, go or take up residence in the park’s protected boundaries. At least one resident roadrunner and a bobcat are known to park staff and swallows have circled the eaves in search of nesting sites.

Local residents also have been circling the grounds, anxious for those massive zaguan gates to open. Some outdoor programs already have begun, such as the “Lower Rio Grande Edition of the Bosque Education Guide” workshops for teachers. The new guide gives teachers an opportunity to learn and teach how water is used today for different needs such as farming, community growth and wildlife. Birders have prowled the grounds at dawn and dusk in search of tiny sparrows or occasional egrets.

The collective stewardship of countless individuals and organizations has opened the gates to building a new community in the Old Refuge -- one that offers sanctuary to both humans and wildlife. The park’s emphasis on education and restoration also may take on a larger significance that offers future possibilities through the renewal of old traditions.

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Vietnam Veterans Memorial inspires healing

Park reaches out to everyone affected by war’s tragedies

Story and photos
by Marti Niman

Perched high on a hill with its white winged swoop of wall, the memorial could be mistaken for a ski jump at nearby Angel Fire Resort rather than a profound place of remembrance and healing. Vietnam Veterans Memorial State Park is a launching point of sorts, one that never fails to deeply move those who pass through its winding walkways.

“This facility moves anyone because it evolved from a personal family tragedy and I don’t know of a family in America that doesn’t have or know tragedy,” Park Manager Tom Turnbull said.

Vietnam Veterans Memorial originally was established in 1971 by Victor and Jeanne Westphall to honor their son, Marine Lt. David Westphall, who was killed in Vietnam in May 1968. It was dedicated as a state park on Veterans Day 2005 after it was donated by the David Westphall Veterans Foundation. The foundation continues to partner with State Parks by running the gift shop and raising funds to operate the memorial.

“The memorial is more moving than the Wall (Vietnam Veterans Memorial Wall in Washington, D.C.) because of the personal family aspect of the memorial,” Turnbull said. “The combination of family tragedy, honor and reconciliation is more healing than a structure designed primarily as a remembrance.”

Turnbull has coined a motto that could be lyrics to a rap song: “If you don’t feel, you can’t deal and you won’t heal,” he chants. “The movie, the pictures, the setting trigger feelings and memories that make people deal with the Vietnam experience, even those who weren’t there.”

Turnbull, who served two tours of duty in Vietnam with the U. S. Navy between 1966 and 1968 on the U.S.S. Preston, DD 795, took the helm of the park in May 2006. During his tenure, the park has evolved to encompass a larger vision than the Vietnam era and is reaching out to be a place of healing for all, as well as a seat of community involvement.

“We are becoming a focal point for the Moreno Valley, uniting the north and south ends and offering the amphitheater for arts, music and shows appropriate to the facility,” Turnbull said.

A music concert of Beatles tunes and three nights of Shakespeare in the Park are recent offerings. Star parties take advantage of the crystalline mountain skies and emphasize relevant stellar subjects such as Mercury, Hercules and navigation with the stars and sextant. The staff also plans to develop educational outreach programs about Vietnam for local and regional schools.

Educator Kate German returned in July from a weeklong Teach the Teacher workshop with the Vietnam Veterans Memorial Fund in Washington D.C., where she received a full scholarship based on an essay she wrote as part of the application. The workshop provided ideas and inspiration for history teachers to convey the Vietnam experience to their



A Huey helicopter, instrumental in saving numerous soldiers’ lives, sits outside Vietnam Veterans Memorial State Park near Angel Fire. Below, Park Ranger Kate German, left, sings with fellow musicians in the outdoor amphitheater.



classes. It also offered exposure to innovative exhibits and oral history techniques.

“It was awesome and very productive,” said German, who made contacts with history teachers around the country, viewed state-of-the-art immersion exhibits at the U.S. Marine Corps Museum in Quantico and learned about archives and collections at the Holocaust Memorial Museum – another place of healing for very painful experiences.

German plans to use the knowledge and contacts she made to augment and develop programs at the memorial, including a Vietnam curriculum for teachers to use in the classroom and oral histories that students could develop as part of those studies.

“At the Library of Congress they told us we could have our oral histories on file with them if we use the right methods,” she said. “We’ve also wanted to approach teachers with the whole Vietnam experience in mind – not only the Vietnam Veteran in mind.”

Turnbull said the memorial programs also deal with protestors, those who stayed behind, families who were impacted and the impact of war on the Earth itself, as well as today’s individuals and families affected by the Iraq and Afghanistan conflicts. The park has visits from families that are involved in those conflicts and the staff goes out of its way to welcome them home, as well as those with relatives involved in the Vietnam conflict. The park, however, always will be the Vietnam Veterans Memorial.

“Part of the Vietnam veterans’ mission is to make sure no veteran ever stands alone again at an airport – as has happened to them,” Turnbull said.

“My brother is going to Iraq for the third time, so I do have something in common with veterans,” said German, whose youth sets her apart from immediate personal experience with the Vietnam era.

“I was worried that some veterans might feel I shouldn’t be able to teach about Vietnam because I’m too young and I’m a girl,” she said. “But I’ve done so much research, especially on the Huey helicopter we have on display, that even pilots and crew chiefs are learning new things from me.”

Among the things she has uncovered about the park’s Huey is that it was instrumental in saving numerous pilots’ lives, entering a landing zone 13 times and receiving 135 bullet holes before it was red-tagged by the military as inoperable.

Vietnam Veterans Memorial State Park was dedicated in 2005 on Veterans Day and is the only state park in the country solely dedicated to Vietnam Veterans. The park will honor helicopters and their pilots during its Veterans Day ceremonies this fall, with the park’s Huey taking center stage. For more information, please call (575) 377-2293 or visit www.nmparks.com.





75 reasons to visit a New Mexico State Park

Photos and story
by Marti Niman

As hot summer days quicken into autumn, New Mexico State Parks invites all visitors to help recognize National Public Lands Day – a special day with 75 reasons to celebrate State Parks' 75th birthday.

Sept. 27, 2008, all state parks will waive the standard day-use fee for visitors to camp, hike, swim, fish, water-ski, sail, paddle, tell stories, picnic, explore, enjoy music, relax, dance, learn, teach, scuba dive, stargaze and discover State Parks as your best recreation value close to home.

Several significant special events are scheduled Sept. 27. **Navajo Lake State Park** will offer free lunch during Navajo Lake Work Day, an opportunity for visitors to give back to the park by helping to pick up trash, clear trails and care for this spectacular cliff-lined lake. **City of Rocks State Park** near Deming will host a weeklong Star Party based at its observatory and highlighting special guests and astronomers. **Leasburg Dam State Park** in Las Cruces will host a two-day Bluegrass Festival, with live entertainment and refreshments.

National Public Lands Day honors the 75th Anniversary of the Civilian Conservation Corps, or CCC, which was instrumental in creating New Mexico State Parks as well as countless public lands across the country. More than 120,000 volunteers nationwide are expected to participate with nine federal agencies and numerous state and non-profit organizations to honor and continue the dedicated efforts begun in 1933 by the Civilian Conservation Corps.

Parks across the state continue to provide limitless opportunities. Our lakes and rivers are higher than we have seen them in years, fish are jumping and our forests and meadows offer a lush, green haven for birds and other wildlife.

Rockhound State Park near Deming will sponsor its annual Fall Native Plant Sale on Sept. 20. Come early for a great selection of native and adapted plants and stay for a free evening concert with Mariachi and Ballet Folkloric, featuring locally grown talent.

Caballo and Percha Dam state parks south of T or C will celebrate migratory waterfowl and other avian species Oct. 3 during the annual Migration Sensation. Situated along the Rio Grande, the parks offer some of the best birding in the state with native cottonwood, willow and velvet ash riparian areas lining Percha Dam's banks. Discover the natural, cultural and historical resources at **Oliver Lee Memorial State Park** near Alamogordo during its annual Open House, with day-use fees waived and rangers available for questions and programs.

Elephant Butte Lake State Park will celebrate the 75th anniversary of both New Mexico State Parks and the Civilian Conservation Corps (CCC) Oct. 18 with a dedication ceremony for a CCC Worker Statue to be installed at the Elephant Butte Dam Recreation site. The statue's purchase and installation is a partnership between State Parks and the Youth Conservation Corps (YCC). The YCC also will be recognized for continuing the legacy of the CCC, which was instrumental in developing New Mexico State Parks, especially Elephant Butte Lake State Park.

Brantley Lake State Park in Carlsbad will waive entrance fees and provide free lunch Oct. 18 for volunteers to join park staff in picking up trash



around the park on Dia del Brantley. On the same day, nearby **Living Desert Zoo and Gardens State Park** will sponsor Living Desert Wolf Awareness Day with special programs about the endangered Mexican wolf. The park currently houses six Mexican wolves. Living Desert is accredited by the Association of Zoos and Aquariums and is expected to participate in the Mexican Wolf Survival Species Program.

Several state parks will offer holiday observations and at least three parks will light up the winter skies with luminarias. **Rockhound State Park** will present a holiday tradition Dec. 13 with more than 1,000 luminarias lining the visitor center and native plant garden. Coffee, hot cocoa, cider, Mexican cookies, holiday carols and conversation are part of the enchantment. Visit **Sugarite Canyon State Park** on Dec. 20 to celebrate the holidays during its annual Christmas on

the Chicorica, with a walk along Chicorica Creek by the light of 2,000 luminarias. Peek at the stars through the park telescope, sip hot chocolate and listen to Christmas tunes.

Elephant Butte Lake State Park's Luminaria Beach Walk and Floating Lights Parade is scheduled Dec. 13. Dozens of illuminated boats will give a fresh sparkle to holiday lights.

Las Luces de Villanueva will light up **Villanueva State Park** south of Las Vegas in December. Stroll among the luminarias and decorations throughout this lovely riverside park and enjoy refreshments along the way. The event is sponsored by the staff and community of Villanueva.

All events and schedules are subject to change. Please visit www.nmparks or call 1-888-NMPARKS for current information.



Elk by the numbers

- **Current population statewide:** 70,000 to 90,000 elk.
- **Here’s the meat:** Hunters harvest approximately 2.3 million pounds of edible elk meat each year.
- **Nutrition:** Three ounces of elk meat has 124 calories and 3 grams of fat; compared with beef, which has 259 calories and 25 grams of fat.
- **Pricey license:** A hunter paid \$90,000 at auction for the 2008-2009 season Governor’s Elk License, which allows hunting during an extended season statewide. Proceeds are used for habitat improvements and elk management.
- **Economy booster:** The net economic impact to rural communities through private landowners selling bull elk authorizations exceeds \$34 million a year, according to a Department survey. Public-land elk hunters, resident and nonresident, spend more than \$34 million every year in New Mexico.
- **Licenses:** About 30,000 elk hunting licenses are issued every year.
- **Success:** About 33 percent of elk hunters are successful in harvesting a bull or cow elk.
- **Where are the elk?** 56 percent of New Mexico’s elk predominantly use public lands, but also frequent private lands (30 percent).
- **Elk range ownership:** U.S. Forest Service, 37.3 percent; private, 29.8 percent; tribal, 13.8 percent; BLM, 11.6 percent; State Trust Lands, 6.2 percent; other federal lands, 14 percent.
- **On the road:** From 1997 through 2003, elk were involved in 934 reported vehicle accidents that caused three human fatalities, 19 incapacitating injuries and 103 visible injuries. The number of reported elk-vehicle collisions is believed to be fewer than half the actual number.



Bull elk shed their antlers in early spring and immediately begin growing new ones. By September, the antlers are hard and polished. New Mexico’s largest bull elk attract hunters like Bill Metcalf, right, who paid \$79,000 at auction for a chance to harvest his trophy on the Double-H Ranch near Datil.

Photos: Top, Don MacCarter; right, courtesy, Rocky Mountain Elk Foundation.



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own can get by for the price of a license -- \$91 for residents, \$543 for nonresidents -- plus other expenses. There also are bargain cow hunts to be found by hunters who enjoy good eating as much as trophy antlers.

Over the years, New Mexico has become known across the world for its trophy-class bull elk, and the Department of Game and Fish specifically manages some herds to provide trophy or quality hunting opportunities. The Gila National Forest and the area around Chama are examples of that strategy. And that translates into big money for landowners, outfitters, guides -- and communities.

“Elk hunting brings more dollars into our area than anything else,” said Bob DeLaHunt, president of the Chama Valley Chamber of Commerce. “It would be an absolute disaster if

we didn’t have hunting up here.”

Liley said managing New Mexico’s elk herds is a balancing act. “We’re always striving to take into account everyone’s desires about where they would like to see the elk population go,” he said. “While our elk population is nowhere near the state’s biological capacity, we have to take into account the social, economic and political factors.”

The Department is constantly working with private landowners to minimize the impacts elk have on agricultural fields and pasture lands. Landowners who work to provide habitat for elk receive hunting opportunities that they can sell, often for large profits.

“Many landowners have learned that elk can actually diversify their income and operation. It gives them another product,” Ahlm said. “Now we’re hearing landowners say, ‘I’m sure glad we have some elk this year because the cattle market is terrible.’ During bad years, the cattle may pay the expenses and that’s it. That’s when elk can help landowners turn a profit.”

Liley said the Department’s 2-year-old Mandatory Harvest Reporting system has greatly improved the way the agency determines elk populations and manages herds. The system requires every elk hunter, successful or not, to report their harvest results or risk losing their opportunity to hunt the next year. The Department uses the information to determine numbers of licenses issued in different areas of the state.

“When the reporting was voluntary, about 25 percent of the hunters reported,” Liley said. “Now we have more than 85 percent. That information, along with our annual aerial surveys gives us the data we need to manage the herds in ways that best benefit hunters, landowners and everyone who enjoys wildlife.”



Photo: Marty Frentzel

A bull elk found the mud at Nabor Lake in the Sargent Wildlife Area to his liking. The Sargent is home to New Mexico’s state elk herd.

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Historical timeline: Elk in New Mexico

- **1875:** After years of unrestricted hunting, a group of 2,000 elk was observed in southern New Mexico.
- **1880:** Territorial Legislative Assembly prohibits elk hunting from May 1 to Sept. 1.
- **1900:** Merriam’s elk (*Cervus elaphus merriami*) extirpated from southern New Mexico.
- **1903:** Elk declared a game animal.
- **1909:** Rocky Mountain Elk (*Cervus elaphus nelsoni*) extirpated from northern New Mexico.
- **1910:** Bartlett Ranch (Vermejo) stocks 15 elk from Yellowstone National Park.
- **1911:** Territorial game warden releases 12 elk in the Sangre de Cristo Mountains.
- **1912:** Statewide elk population estimated at 60.
- **1926:** First elk release in Grant County -- 25 animals at the GOS Ranch.
- **1933:** First elk hunts on public lands -- Pecos area.
- **1934:** Statewide elk population estimated at 4,000.
- **1939:** Elk released at Mount Taylor, Philmont Scout Ranch, Tres Piedras and Zuni Mountains.
- **1948:** First release in Jemez Mountains -- Clear Creek.
- **1955:** 140 elk released on public lands; 160 elk released on Class A game parks.
- **1956:** 213 elk released on public lands; 356 released on private lands.
- **1958:** Statewide elk population estimated at 8,000.
- **1966:** Last elk release recorded -- Cimarron Canyon Wildlife Area.
- **1967:** Statewide elk population estimated at 12,000.
- **1970s:** Elk hunting conducted on regional approach.
- **1981:** Unit system adopted to distribute hunting pressure.
- **1982:** Statewide elk population estimated at 53,000.
- **1994:** Hunter harvest exceeds 10,000 elk.
- **1999:** Statewide elk population estimated at 72,000.
- **1999:** Herd reduction approved for 21 game management units statewide.
- **2006:** Mandatory hunter harvest reports implemented to improve management information.
- **2007:** Hunter harvest estimated at 10,000 to 13,000 elk.
- **2008:** Statewide elk population estimated at 70,000 to 90,000.



Photo: Dan Williams

Fences are no obstacle for agile Rocky Mountain elk, as demonstrated by this group in the Valles Caldera.

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The Department manages herds in different areas of the state in different ways. Some herds are managed mostly to grow trophy-sized elk. Others are managed to provide optimal opportunities for more hunters.

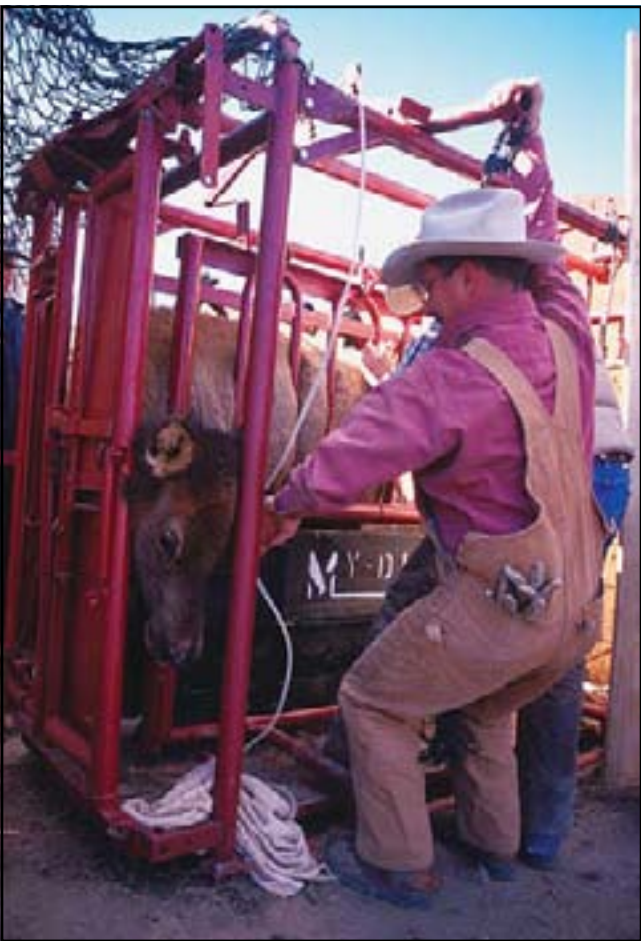
Liley summarized the state’s most prominent elk herds and how they are managed:

- **North-Central:** The Chama-San Antonio Mountain elk herd has one of the largest concentrations of elk in the state. The migrating herd of 18,000 to 22,000 elk extends into southern Colorado and the Jicarilla Apache tribal lands. It is managed for optimal hunting opportunities in Game Management Units 4, 5B, 51, 52 and 50.
- **Jemez Mountains:** The herd of 5,000 to 8,000 elk is mostly in the Valles Caldera, which is specifically managed for trophy hunting and a unique hunting experience. The herd also includes animals in Unit 6A in the San Pedro Wilderness, and areas around Los Alamos and Bandelier National Monument in the winter.
- **Mount Taylor:** The herd of 5,000 to 6,000 in Unit 9 uses Mount Taylor, the Marquez Wildlife Area and the highland mesa above it. It is managed for optimal hunting opportunities.
- **Zuni Mountains:** A stable population of about 1,000 elk are in Unit 10, better-knowns for its deer hunting opportunities.



Photo: Don MacCarter

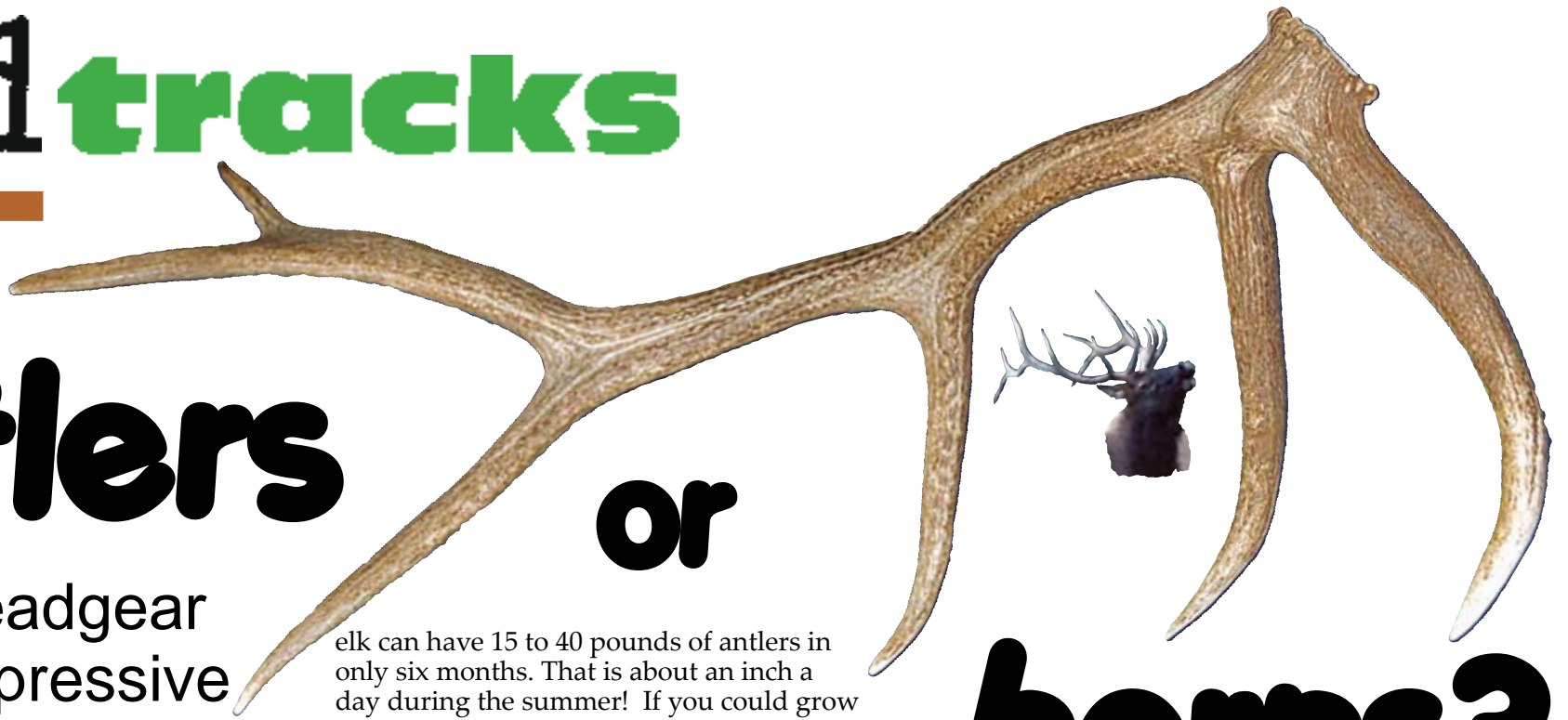
- **Northwest:** The San Juan herd population in Unit 2 is 1,000 to 1,200. The elk migrate from the Jicarilla reservation and southern Colorado in winter. The herd is managed for trophy hunting.
- **Datil:** The herd in Unit 13 is estimated at 2,000 to 3,500 and has been increasing over the past 10 years. Unit 13 includes the Double-H Ranch, owned by the Rocky Mountain Elk Foundation, and is managed for trophy hunting, limited to primitive weapons only.
- **Greater Gila:** The state’s second-largest herd, estimated at 16,000 to 20,000 and increasing, is the most consistent area for producing trophy bull elk. It has a high hunter-success rate, making licenses very desirable. It includes Units 15 and 16 A -E and is managed for trophy hunting.
- **Lesser Gila:** About 3,000 elk use Units 21A, 21B, 22, 23 and 24 along the lower-elevation fringes of the Greater Gila area. It is managed for optimal hunting opportunity.
- **San Mateo Mountains:** Unit 17 consistently produces trophy bull elk and is managed as a trophy, primitive weapon area. It is rugged and hard to hunt, with a population of about 2,000.
- **Sacramento Mountains:** One of the state’s healthiest herds estimated at 3,000 to 4,000 elk is stabilizing after a period of high growth. Unit 34 is managed for optimal opportunity.
- **Ruidoso:** A herd of 2,500 to 3,500 elk in Unit 36 is managed for trophy hunting.
- **Pecos:** High elevations and scenic backcountry make Units 44 and 45 one of the most pleasurable hunting areas in the state. With about 2,500 elk, the area is managed to provide hunters with a quality hunting experience along with a chance of harvesting a nice bull.
- **Penasco:** Fewer than 1,000 elk use Unit 49, which is managed for optimal hunting opportunity.
- **Valle Vidal:** Unit 55A in the Carson National Forest is managed as a special hunting opportunity because of its beauty and elk herd of about 3,000. Licenses are once-in-a-lifetime.



Department photo

New Mexico’s elk restoration efforts have been so successful that the state can now export elk. Above, Lief Ahlm, then assistant Northeast Area chief, prepares a cow elk for transport to Kentucky.

To learn more about elk and elk hunting in New Mexico, please read the annual Big-Game & Trapper Rules & Information booklet or visit the Department website, www.wildlife.state.nm.us.



Antlers

or

horns?

Wildlife headgear always impressive

By Kevin Holladay

New Mexico is fortunate to have so many different kinds of wildlife. We have more than 270 species of mammals, including some with very impressive antlers and horns.

There are five horned species of wild animals found in New Mexico: desert and Rocky Mountain bighorn sheep, ibex, Barbary sheep, bison and pronghorn. New Mexico animals that have antlers include mule deer, white-tailed deer, and Rocky Mountain elk.

Knowing how antlers and horns are different can help us better understand of the lives of these fascinating animals. Antlers and horns tell us a lot about the diet, heredity and age of an animal. Horns and antlers are similar in the ways they help animals, but they are different in many ways.

Fast-growing bones

Antlers are bones that are shed every year. Horns keep growing throughout the life of the animal and are made of keratin, the same thing our hair and fingernails are made of.

Only male animals grow antlers, except for caribou. Male and female caribou grow antlers because they need them to scoop snow aside to uncover plants to eat during the winter.

Antlers start growing in the spring in response to the longer daylight hours. They start growing from bony bumps on the skull. As the antler grows, so does the skin covering the bumps. You may have seen pictures of deer or similar animals with antlers covered in a soft, fuzzy material. This thin skin is called velvet because it looks and feels like velvet cloth.

The skin or velvet brings blood and nutrients to nourish the growing bone. Look closely at a deer or elk antler and you will see grooves and ridges on it. These mark the paths of veins that once carried blood. Calcium is deposited into the antler to make them hard. As more and more calcium builds up in the bone, it eventually closes off the flow of blood, causing the velvet to die and the antler to harden. Deer and elk rub their antlers against trees and shrubs to remove the drying velvet. Look for signs of elk and deer rubbing their antlers on aspen trunks and small pine trees.

Bull elk and buck deer shed their antlers every spring and immediately begin growing new ones. Antlers grow very fast -- so fast that a bull

elk can have 15 to 40 pounds of antlers in only six months. That is about an inch a day during the summer! If you could grow bones as fast as a bull elk grows antlers, you could grow 7 ½ feet during summer vacation. That would certainly keep you busy buying new clothes!

What determines the size and shape of the antlers? It depends on the animal's diet, age and their parents. A well-balanced diet with lots of protein and the right amount of fats, carbohydrates and minerals can produce large antlers on animals in their middle years (usually 4 to 10 years old). Family plays a role, too. You

may have one or more tall parents but if you don't eat a healthy, nutritious diet, you might not get as tall as them. It is the same with elk and deer. If they had fathers with large antlers, they would tend to have larger antlers, too.

Horns for life

Horns are like antlers because they are hard and they stick out from an animal's head. However, horns are different in many ways. Horns have a bone core that is attached to the animal's skull. Surrounding the core is a cover, or sheath, made of keratin, a hard, smooth material that's also in human fingernails, horse hooves, bear claws and bird beaks. Horns are never shed and continue to grow throughout the animal's life. In New Mexico, there is one exception to this -- the pronghorn, which sheds its horn sheaths every year.

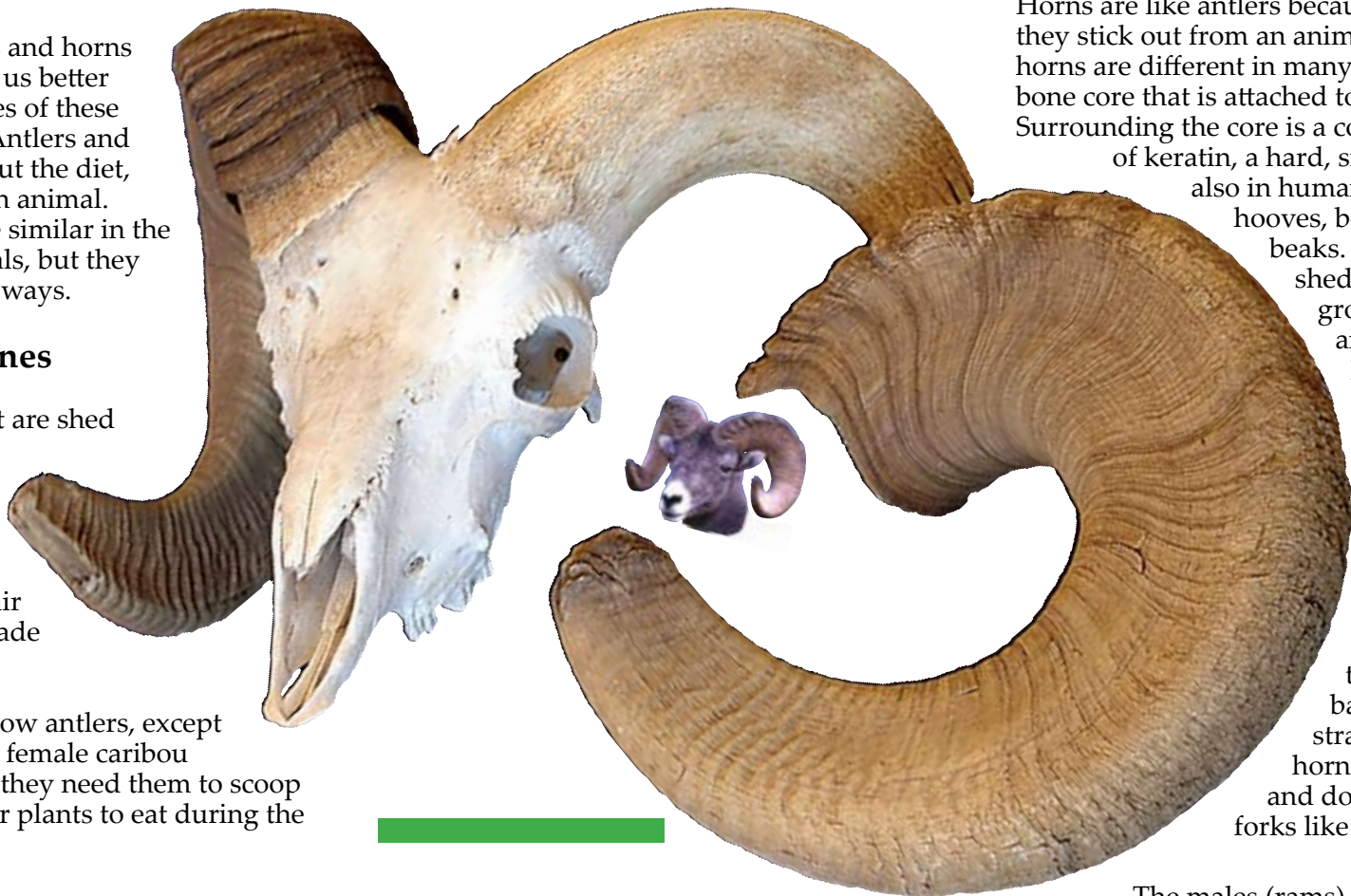
Male and female animals can have horns. Male horns usually are bigger so they can use them in battles. Horns can be straight or curved. Most horns have a single point and don't have branches or forks like deer and elk antlers.

The males (rams) of bighorn sheep put tremendous energy into growing their massive horns. Ram horn growth stops during the reproductive period (rut) in the fall, and then resumes early in the new year. A ring-shaped depression called a horn ring is formed when the horn stops growing. These horn rings can be used to estimate the age of the animal.

Uses of antlers and horns

Animals with antlers or horns use them in similar ways. Males may charge headfirst at each other, knocking antlers or horns together with a loud noise as they battle for territory or mates. Antlers and horns also prevent serious head injuries, while still showing which animal is stronger than the other. Animals also use antlers or horns to defend themselves against predators such as bears, coyotes and mountain lions.

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Elk antlers, top, are fast-growing bones that are dropped, or shed, every year. Bighorn sheep, center, have heavy horns that cover bones. Bighorn horns grow bigger every year and are never shed. Pronghorns, below, shed their horns every year and grow new ones over their small, pointy bones.

Photo illustrations: Dan Williams

