



Photo: Dan Williams



Otter recovery on track

Fabulous falcons

They can dive at more than 260 miles per hour and see eight times better than people. Falcons are a delight to watch and an obsession to those who train and care for them.

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



River otters were swimming and playing in the Rio Grande this fall for the first time since the 1950s.

Photos: Dan Williams

Restoration begins in Rio Grande Basin

By Dan Williams

Darren Bruning isn't quite sure why, but there's something about otters that brings out the best in people. "Just say the word, 'otter,' and people light up like magic."

Bruning, a wildlife biologist with USDA-APHIS Wildlife Services, watched the magic this fall when he and Taos Pueblo helped restore five river otters to the animals' historic range in the Rio Grande Basin of Northern New Mexico. From the time the otters were caught in Washington state until they were released in the Rio Pueblo de Taos, all he saw were smiles of support.

"It was a tremendous feeling to see so many people supportive of returning these animals to a place where they haven't been seen in 60 years," Bruning said. "Once people learned what we were doing, they wanted to help."

On Oct. 14, the magic of six federal and state agencies, one Indian Pueblo, several conservation organizations and many individuals came together with New Mexico's



first release of wild river otters. It was the first time anyone had seen a wild otter in New Mexico waters since 1953, when one was caught in a Gila River beaver trap.

"It was thrilling, beautiful ... and raining -- a perfect day for otters," said Melissa Savage, director of the Four Corners Institute and a member of New Mexico Friends of River

... continued on Page 14



New director is 30-year veteran

By Dan Williams

Tod Stevenson, a 30-year employee of the New Mexico Department of Game and Fish, became Department Director in November, replacing Bruce Thompson, who resigned to take another position in state government.

Stevenson returns to the Department after having retired as Deputy Director in 2007. His career includes several positions with the Department, including assistant director, chief of Conservation Services, and Northeast Area operations chief. As the Department's 18th director since the position was established as territorial game warden in 1903, he will oversee state programs designed to provide for an adequate supply of wildlife and fish, and for their protection, propagation, regulation, conservation, and for their use as public recreation and food supply.

"I'm excited about the opportunity to come back to the agency in this position," Stevenson said. "We have a lot of challenges to face, and we also have a huge amount of opportunities: There are some exciting things we can do.

"I'm also looking forward to working with all of our constituents: sportsmen, landowners, advocacy groups, tribal entities, other agencies and individuals -- everyone out there who deals with the state's wildlife," Stevenson said. "I want to help people understand how great this outfit is, and assure people that they have an opportunity to interact with us as we manage the state's wildlife the best we can."

From his start as a hatchery worker in 1977, Stevenson has been known for his voice of reason and understanding, always sensitive to a wide range of interests. Since he became a certified



Tod Stevenson

peace officer in 1980, he has been able to achieve a rare balance between roles as wildlife biologist and law enforcement officer. As a District Wildlife Officer in the 1980s, he quickly established himself as a role model for the conservation officer concept, embracing challenges while recognizing beauty in every assignment.

Stevenson is serious when he brags about being the only conservation officer ever to request duty in Lordsburg.

In the late 1980s, a time when the Department had no habitat specialists, Stevenson was moved to Taos, where he recognized a troubling trend threatening deer and elk fawning and calving areas, and wintering grounds for bear and turkey in the Carson National Forest. As District Wildlife Supervisor, he pointed out "cumulative impacts" of timber sales on wildlife, water quality and fisheries, illustrating them with maps and overlays that made

the issue impossible for forest officials to ignore.

"No one is more qualified to lead the Department of Game and Fish at this time than Tod Stevenson. He is an experienced and well-respected wildlife professional," said Joanna Prukop, Secretary of the New Mexico Energy, Minerals and Natural Resources Department and former Northeast Area Chief for the Department of Game and Fish. "He can relate effectively to all the Department's stakeholders and provide just the kind of leadership needed for today's challenges."

During that same 1980s time period, Stevenson donned his law enforcement hat and was awarded the Shikar-Safari Wildlife Officer of the Year award, partly for his work assisting with the prosecution of New Mexico defendants in a San Luis Valley, Colorado, undercover poaching investigation.

In 1997, Stevenson was promoted to Northwest Area Chief, where he supervised staff dealing with issues involving Fort Wingate Buffalo, conservation of the Marquez Wildlife Management Area, landowner relations, trophy fisheries and elk depredation. He further honed his supervisory skills as Chief of the Conservation Services Division from 1999 to 2003. As CSD Chief, he oversaw one of the Department's greatest successes involving endangered species -- the Gila Trout Recovery Program. He continued his involvement with the program through his promotions to Assistant Director and Deputy Director -- and in 2006, the native fish became the first state fish and one of very few wildlife species nationwide to be downlisted from federally endangered to threatened.

As Deputy Director, Stevenson continued his involvement with endangered species and regional water resources fish as chairman of the Middle Rio Grande Endangered Species Act Collaborative Program. Program participants representing 20 state and local governments, and other interests are working toward objectives that include ensuring the survival of the endangered silvery minnow and the southwestern willow flycatcher by restoring habitat and securing federal funding for the project's future.

Bruce Thompson, who served as director from 2002 to 2008, resigned to become the Coordinator for Land Conservation, Habitat Corridors and Wildlife Adaptation for the New Mexico Energy, Minerals and Natural Resources Department.

report harvest information by March 31, and do not have to report to be eligible for the Feb. 4 drawings.

Failure to report will result in all applications for public drawing hunts, landowner authorizations and applications for species other than deer or elk, being rejected for the following season. Reporting takes only minutes, either by visiting www.newmexico-hunt.com or by calling toll-free, (888) 248-6866.

For more informations, please visit www.wildlife.state.nm.us, or call (505) 476-8087.

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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 4

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Through the ranks

Tod Stevenson's career with the New Mexico Department of Game and Fish:

- **1977-78:** Wildlife Conservation 1, Glenwood Fish Hatchery.
- **1978-1981:** Wildlife Conservation 2, certified as peace officer in 1980, Glenwood Fish Hatchery.
- **1981:** District Wildlife Officer trainee; training in Albuquerque, then transferred to Lordsburg.
- **1981-84:** Wildlife Management Officer 1, Lordsburg.
- **1984-87:** Wildlife Management Officer 1, Taos.
- **1987-97:** Wildlife Management Supervisor, Taos.
- **1997-99:** Northwest Area Division Chief, Albuquerque.
- **1999-2003:** Conservation Services Division Chief, Santa Fe.
- **2003:** Assistant Director in charge of Fisheries, Wildlife Management and Conservation Services divisions, Santa Fe.
- **2003-2007:** Deputy Director, Santa Fe.
- November 2008-present: Department Director.

Oryx, special turkey, population reduction hunt deadline is Feb. 4

Hunters have until Wednesday, Feb. 4, to mail or submit online applications for 2009-2010 oryx licenses, bear Wildlife Management Area permits, population reduction hunts and special spring turkey permits. To be eligible for the drawing, hunters who held deer permits or elk licenses for the 2008-2009 season must have reported their harvest results before applying.

Applications must be postmarked or sent via the Department of Game and Fish Web site by midnight MST Feb. 4. Hunters are encouraged to use the Web site, www.wildlife.state.nm.us, as the most convenient way to apply. Written applications and 2009-2010 Rules and

Information Booklets are available at license vendors and at Department offices in Santa Fe, Albuquerque, Raton, Roswell and Las Cruces.

All deer and elk hunters must file their harvest reports by Feb. 15 annually, unless they are applying for oryx, special-entry bear, population reduction, or special-entry turkey hunts, in which case they must file their harvest reports before applying. Hunters who miss the reporting deadline may still report and be eligible for drawings if they report before the drawing deadline and pay a late fee.

Furbearer hunters and trappers must



'Rock snot' found in Pecos River **Get involved**

The Department of Game and Fish is urging anglers and others who visit the Pecos River Canyon to take measures to prevent the spread of an invasive species of algae that could present many problems for the Pecos River and other state waters.

The New Mexico Environment Department confirmed a bloom of *Didymosphenia geminata* in the Pecos River near Cowles in August. Commonly called "didymo," the single-celled alga's large, ugly growths on stream gravels have earned it the descriptive name, "rock snot." It is an aquatic nuisance species known to be transferred around the world on boats, fishing equipment and footwear.

Didymo can undergo explosive growth, creating massive algal blooms in the form of dense mats that can impact native algae and invertebrates -- the food base for native and sport fish. The alga can change water chemistry and hydrology and reduce hydroelectric power production. Its presence also can hurt tourist economies in infected areas.

Native to northern Europe and Vancouver Island, Canada, *didymo* has spread to all but three U.S. states, Arizona, Nevada and Oregon. It appears to prefer habits low in nutrients and organic productivity, but can be found in freshwater streams, rivers and lakes. The apparent increase in invasiveness of *didymo* may be related to factors including inter-basin transfer by humans, climatic changes, altered grazing, and genetic changes.

Pecos Canyon pitched as 36th NM State Park

Visitors to the Pecos River Canyon may see improved campsites, trailheads and natural resource protection if the state Legislature approves a plan to make parts of the canyon a state park.

In September, Gov. Bill Richardson announced his support for establishing Pecos Canyon State Park, which would be composed of about 186 acres of land owned by the State Game Commission.

"Pecos Canyon State Park will join the 35 state treasures that make up our world class State Park system," Gov. Richardson said. "I am confident this new state park will be a treasure for years to come for New Mexicans and visitors to share."

Legislation in the 2009 session that would authorize the New Mexico State Parks Division to enter into an agreement with the New Mexico Department of Game & Fish allowing State Parks to legally manage recreation on the State Game Commission properties.

Reintroduced boreal toads survive first summer in new home

Boreal toads, last seen in New Mexico in 1993, appear to have gained a foothold in the state following the release of 4,068 tadpoles near Trout Lakes in June.

Researchers watched the tadpoles as they grew into toadlets, eventually more than doubling in size by the end of the summer. Full-grown boreal toads are two to three inches long.

By October, researchers estimated 500 to 1,000 of the original 4,068 had survived and hunkered down in rodent burrows and under the roots of large conifers to wait out the long winter. The Department of Game and Fish, U.S.



Photo: Danny Davis

An invasive algae called "didymo" can damage native plants and fish.

This is the second aquatic invasive species known to exist in the Pecos River. Whirling disease, a protozoan parasite that attacks the spinal columns of trout, is found in the river's headwaters. Whirling disease also is known to "hitchhike" on unwashed fishing tackle and waders.

To help prevent the spread of *didymo*, anglers and others are urged to:

- **Check:** Before leaving the river, remove all obvious clumps of algae and look for hidden clumps. Leave them at the site. If you find clumps later, don't wash them down the drain; treat them with approved methods below, dry them and put them in a rubbish bin.
- **Clean:** Soak and scrub anything that may have contacted algae for at least one minute in either hot (140 °F) water, a 2 percent solution

of household bleach, or a 5 percent solution of salt, antiseptic hand cleaner or dishwashing detergent.

- **Dry:** If cleaning is not practical (pets, livestock), wait until it is completely dry, and then wait at least 48 hours before contact or use in any waterway.

This discovery comes just as the Department of Game and Fish is leading a statewide effort to adopt a New Mexico Aquatic Invasive Species Management Plan. Strategies include creation of a New Mexico Invasive Species Council; laws against importing aquatic invasive species to the state; funding to combat the spread of invasive organisms; and monitoring known invasive species in the state.

Nationwide, aquatic invasive species cost \$137 billion a year to offset their impacts and educate people about preventing their spread. The 100 or so aquatic invasive species posing threats to New Mexico water resources include quagga and zebra mussels and the New Zealand mudsnail. These species can grow unchecked in waters that contain no natural predators or diseases, while clogging pipes and damaging ecosystems.

For more information about invasive aquatic species, contact Brian Lang, (505) 476-8108 or brian.lang@state.nm.us. To review the New Mexico Invasive Species Plan, please visit the Department of Game and Fish Web site, www.wildlife.state.nm.us.

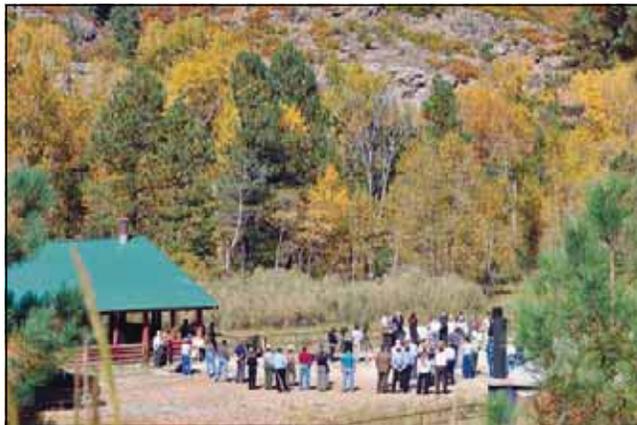


Photo: Dan Williams

The Jamie Koch Recreation Area would become part of a New Mexico State Park if the state Legislature approves a proposal in 2009.

"State Parks has been celebrating its 75th anniversary throughout 2008," State Parks Director Dave Simon said. "I can't think of a better way to commemorate it. This is a gift to the people of New Mexico."

The Commission property includes six different locations along 17 miles of

Pecos River Canyon that are extremely popular for fishing access and other wildlife-associated recreation, including day-use and overnight camping. A 20-mile stretch of the Pecos River, from its headwaters high in the Pecos Wilderness south to Terrero, is part of the National Wild & Scenic River System.



Photo: Leland Pierce

Juvenile boreal toad

Forest Service and other partners will look for them again next spring and decide whether to stock more tadpoles from a hatchery in Colorado.

Leland Pierce, the Department's Terrestrial Species Recovery Coordinator, said many boreal toad sightings have been reported since an article appeared in the Fall 2008 issue of *New Mexico Wildlife*. However, all were determined to be of species of toads live in lower elevations. The minimum recorded elevation for boreal toads in New Mexico is 9,104 feet. The highest elevation for all other toads is less than 8,000 feet.

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 a few of them:

Safari Club International, Southern New Mexico: Promotes wildlife conservation worldwide while protecting the hunting heritage and supporting numerous education and humanitarian projects. LTC R.A. "Pancho" Maples, pancho1@plateautel.net.

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. Quincy and Carole Shores, DuMaDuck@aol.com.

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.

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.

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.

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." (505) 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.newmexicotrout.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.



Northwest

Crow Mesa habitat work pays off

By Ross Morgan

New Mexico hunters are starting to see results of habitat improvement projects conducted statewide by the New Mexico Department of Game and Fish to help deer and other wildlife.

"We are getting calls from hunters who say they are starting to see more deer in the areas where we are conducting these projects," said Bill Taylor, the

Department's game manager for the Northwest Area. He said although the projects emphasize deer herds, elk and other wildlife also benefit.

The habitat projects are made possible by funding through the state Habitat Stamp Program, Deer Enhancement funds, Bureau of Land Management, conservation groups and other agencies. The Deer Enhancement funds carry a bonus because they are matched by federal grants that increase their purchasing power.

The Deer Enhancement funds are raised in annual auctions and raffles for special permits that allow hunters to harvest deer with any legal weapon during extended seasons on public land or on private land statewide with a landowner's permission. Last year's Deer Enhancement License sold for \$71,000 at auction. A raffle for a second Deer Enhancement permit earned \$11,000. Most of the money raised at auctions is matched 3-to-1 with Federal Wildlife Restoration Grant money, giving the Department opportunities to restore and improve significant and meaningful areas of habitat statewide.

One area where habitat restoration has had a dramatic effect is Crow Mesa in Game Management Unit 2C in northwestern New Mexico. Habitat projects there encompass more than 450 acres of Wyoming big sagebrush interspersed with piñon pine, big basin sagebrush, cheat grass, annual weeds

(mustards), and some pockets of perennial grasses.

Projects included burning of some of the acreage so a rangeland drill could seed it with a mix of cool-season grasses and forbs. Next, a portion of the acreage was plowed and followed by a rangeland drilling process to seed a mix of cool-season grasses and forbs. Most of the acreage was then seeded again and harrowed to create a mosaic.

"These projects are being initiated due to the lack of early spring and summer herbaceous forage in the area," said John Hansen, wildlife biologist for the BLM. "Green forage of this type provides a high-protein food for lactating deer and elk during critical periods when young are being born and raised."

The Department, in coordination with the Habitat Stamp Program, other entities and matching federal funds has spent more than \$40,000 on the Crow Mesa projects, and intends to spend another \$100,000 in 2009.

For more information about habitat projects, visit www.wildlife.state.nm.us, click on the conservation tab and look for the Habitat Stamp Program.

Ross Morgan is the Department of Game and Fish public information officer for the Northwest Area. He can be reached at (505) 222-4707 or ross.morgan@state.nm.us.



Photo: Ross Morgan

Native grass and shrub seeds are spread then harrowed into the soil in the final stages of habitat restoration work to help deer herds.

Rio Grande's winter wonders

By Clint Henson

Even though ice will soon cover many of the lakes and streams in Northern New Mexico, that doesn't mean you have to trade your fly rod for the ice auger. The Rio Grande offers world-class fishing all year long with a wide diversity of game fish and some of the most beautiful scenery in New Mexico.

With more than 65 miles of fishable waters from the Colorado State line south to Embudo Creek, the Rio Grande is easily accessible. Hiking, fishing, boating, camping and photography are welcomed activities within the Bureau of Land Management Wild and Scenic River management area.

The splendid scenery itself calls you to explore the Taos Gorge, but the amazing diversity of wildlife in the canyons best surprise. The canyon is alive with many species of raptors, songbirds, waterfowl, deer, beavers and recently released bighorn sheep and river otters. Bring a pair of binoculars, find a warm rock and sit and watch the ever-changing sights and sounds.

For anglers, an even bigger surprise lurks beneath the waves. Smallmouth bass, northern pike, brown trout, rainbow trout, and the native Rio Grande cutthroat trout, along with bullhead catfish and carp give an amazing diversity to this world-class fishery. Anglers are sure to enjoy their trip whether they fish from the shore, wade or use rafts to find the perfect hole.

Biologists with the New Mexico Game and Fish Department have worked for decades to produce great angling

opportunities on the river. Annual brown trout stockings, a Special Trout Water designation, and summer-through-fall rainbow trout stockings are a few of the management tools used.

Brown trout have been stocked into the river for many years by backpack. Game and Fish employees and volunteers strap five-gallon jugs of water and brown trout fry to their backs and carry the fragile cargo down steep, snowy trails to the river below. The brown trout eggs are received from the United States Fish and Wildlife Saratoga fish hatchery, and are hatched out in the Red River fish hatchery.

Anglers' only problem may be choosing a starting point in the more

than 60 miles of fishable water. A few good places to start include the Red River confluence, directly below the John Dunn Bridge, and at the Taos Junction Bridge. These areas have healthy wild trout populations. For smallmouth bass in spring, any of the river below Taos Junction Bridge is a good place to start, and if you want some real excitement chasing northern pike, the John Dunn and Taos Junction bridges are recommended.

The rule of thumb in the Rio Grande for trout fishing is if the river is clear, then fishing will be great, and if the river is muddy, fishing can be extremely difficult. The good news is that the Rio Grande is typically clear during winter and early spring. The water temperatures will be cold during these months, which will slow fish



Department of Game and Fish file photo

fisheries biologist Eric Frey shows off a heavy brown trout caught and released during a recent electroshocking survey of the northern Rio Grande.

Northeast

metabolism, so be patient. Fish the pools slowly and thoroughly, and you will experience one of northern New Mexico's best winter fishing waters.

There is a Special Trout Water designation at the Taos Junction Bridge upstream to the New Mexico-Colorado border. The section has a reduced daily harvest limit of three trout, but with no tackle restrictions. Anglers may use flies, lures and legal bait.

The Wild and Scenic Rivers Area has many developed camping areas for those traveling with motor homes or travel trailers. Campers also can choose primitive shelters, only accessible by trail, to avoid the crowds. Several trailheads lead from the Taos Valley to the canyon bottom with an elevation change of 800 feet. Always bring a jacket because the temperatures can be very different at the canyon bottom. Vehicle access to the river is available at the John Dunn Bridge and the Taos Junction Bridge.

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



Head for the 'Sands'

By Mark Madsen

Thousands of square miles of deep, rolling sand dunes covered with shinnery oak, sand sage and bluestem grasses ... Home to prairie chickens, quail, mourning doves, sand dune lizards, rattlesnakes, pronghorns and mule deer... That pretty much describes what the locals call the "sand country" or Mescalero Sands.

The 'sand country' starts just north of U.S. 70 between Roswell and Kenna and runs all the way to the Texas state line south of Carlsbad. It includes numerous complexes of sand dunes and associated wildlife habitat types -- bordered on the east by the Mescalero Rim (caprock).

Vast expanses of sand dunes covered with shinnery oak and mixed tall grasses provide excellent habitat for lesser prairie chickens. Prairie chickens can be found primarily in the northern reaches of the sand country, east and northeast of Roswell. Unfortunately, chicken numbers have declined in the southern portions of the sand country due to increased habitat fragmentation and disturbance.

If you're looking for a unique wildlife viewing opportunity, check out the "booming" prairie chickens on the leks during early spring. On those rare spring mornings, right at first light, you can hear chickens "booming" from miles away when the wind isn't blowing. Prairie chickens provide an excellent opportunity for wildlife watchers and photographers, especially during the early spring when the birds' mating season is in full swing. Several leks, or "booming grounds," are accessible by vehicle or by taking a short hike.

The sand country also provides opportunities for hunters, whether they are seeking big or small game. Scaled (blue) quail are the predominant small-game species found in the sand country, with an occasional bobwhite turning up. Quail numbers fluctuate from year to year



Photos: Mark Madsen

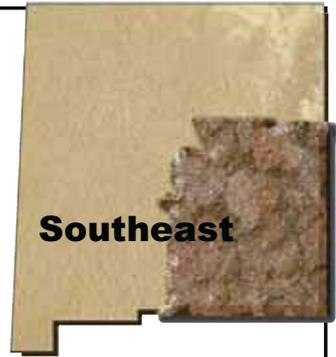
Lots of scenery and a few big bucks can be found in Mescalero Sands.



a few inconsiderate hunters for others to clean up.

For years, hunters have talked about the trophy mule deer potential in the sand country. The northern portion of Mescalero Sands (Game Management Unit 33) is being managed for quality mule deer. Deer hunter numbers have been reduced in Unit 33 to provide a more quality hunt experience.

Hunting deer in the sand isn't easy; you'll have to get away from the roads if you want the opportunity to harvest a buck. While most bucks harvested are of average size, occasionally someone will take a wall-hanger. Successful hunters spend time glassing for deer off of the Mescalero Rim, still-hunting through the dunes, or by following fresh tracks crossing the roads. Hunters working tracks need to be prepared; you might get lucky and only have to hike a couple of hundred yards, or not so lucky and have to hike several miles.



Southeast

Need a good workout and want to feel the burn? Forget about Pilates, aerobics, and weight lifting. Spend a few days hunting or hiking in the sand country and experience what a truly good workout feels like. You can get a good physical workout and have a truly unique New Mexico outdoor experience.

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

depending upon rainfall and overall habitat conditions. Hunters in the sand country normally find birds by driving the roads and watching for flushing coveys, or by working the areas around water sources. Quail tend to be harder to find as the season progresses, so plan on doing more footwork. Make sure and bring your "running shoes" because scaled quail don't stay put, especially after being bumped a time or two.

Dove hunters enjoy the sand country, where mourning and white-winged doves can be found. Even a few Eurasians collared doves have been showing up in some areas. Setting up around water tanks or in areas with ample sunflowers can be very productive. Once again, bird numbers depend a lot on weather. Do everyone a favor and pick up your empty hulls when you done hunting. There's nothing worse than pulling up to a dirt tank and seeing the litter left behind by



Annual festival features 'booming' prairie chickens

For wildlife watchers, few sights and sounds are as exhilarating as a group of lesser prairie chickens booming on their lek on a bright spring morning. And each spring, visitors from across the country gather in the small community of Milnesand to witness a spectacle they will never forget.

This year, the Department of Game and Fish, along with the Nature Conservancy of New Mexico, the Grasslands Charitable Foundation and the community of Milnesand will be at it again, hosting the 8th Annual High Plains Prairie Chicken Festival. The April 17-19 event is open to the first 100 participants who register. Participation is limited to provide a quality experience for visitors, with a minimum amount of disturbance to the prairie chickens during their breeding season.

The festival celebrates the lesser prairie chicken and the Llano Estacado (staked plains) of eastern New Mexico. Participants see prairie chickens perform their remarkable

early morning courtship dances, learn about the cultural and natural history of the southern Great Plains, take daily birding tours, and enjoy good food and western hospitality.

Entry fee is \$90 per person and covers the cost of five meals, a commemorative poster and all field trips. Registrations will be accepted beginning Jan. 1 and the registration deadline is April 1.

Registration forms will be available at www.wildlife.state.nm.us. For more information, please contact Tish McDaniel, (575) 762-6997, chickenfestival@yahoo.com; or Grant Beauprez at (575) 763-1041.

Artists are encouraged again this year to submit original work in the festival poster contest. The grand prize winning entry will be reproduced on the annual festival poster, and the artist will receive \$300. Top winners in three age categories, adult, grades 7-12, and grades K-6 will receive \$50.



Photo: Dan Williams

A male lesser prairie chicken displays his plumage and stamps his feet in an attempt to impress a hen during the bird's spring mating season.

Art entries must be received by Feb. 15 in the Public Information and Outreach Division, Department of Game and Fish, 1 Wildlife Way, P.O. Box 25112, Santa Fe, NM 87504. Entries will be returned only if accompanied by a self-addressed, stamped envelope, or they may be picked up at the Department's office

in Santa Fe after March 15.

Artists should submit 35mm slides, prints, high-quality digital photos or original work. Artwork must include the artist's name, address, phone or e-mail and entry category. For more information about the contest, please call (505) 476-8004.



Research tracks elk after wildfire

Model suggests Cerro Grande fire improved habitat

By: Susan P. Rupp

When we look at the mountains above Los Alamos, it's hard to believe any good could come out of the devastating 47,000-acre Cerro Grande Fire that swept through the area in May 2000. But if we look close enough, we can see shrubby vegetation starting to come back on the steep hillsides. Patches of aspen now reach toward the sunny skies where thick forest once overshadowed the ground. New life is slowly returning to the burned forest that caught national headlines eight years ago.

Now, researchers are trying to unravel the mysteries surrounding potential changes as the landscape recovers from such an extraordinary event. How will the vegetation recover? Will the animals that were displaced by the fire eventually return? If they do, how will the fire affect their habitat? Will the animals change their behavior? The questions are endless, but sound science coupled with resourceful management offers hope for answering some of them.

Researchers at Los Alamos National Laboratory worked with many agencies to address some of these questions about elk in the Jemez Mountains. A combination of modeling, experimentation and monitoring compared the outcomes of alternative wildlife and habitat management actions. Funding was provided in part by Los Alamos National Laboratory, Texas Tech University and The Canon National Parks Science Scholars Award Program, which was jointly sponsored by the National Park Service, the American Association for the Advancement of Science, and Canon U.S.A, Inc.

Bandelier National Monument, Los Alamos National Laboratory, New Mexico Department of Game and Fish, the USDA Forest Service, and the Valles Caldera National Preserve teamed up to collect and analyze data after the fire. Some of the data were used to model potential changes in elk movement and distribution patterns following the fire. The goal was to provide a management tool that could be used by natural



Photo: Dan Williams

Six years after the Cerro Grande Fire burned 47,000 of the Jemez Mountains, elk have started moving into some of the areas hit hardest by the blaze.

resource managers to evaluate different ways of managing elk and their potential impacts.

Why bother?

The recent article, "Comeback of the Century", in the Fall 2008 issue of "New Mexico Wildlife" explored how New Mexico's elk population has soared from 0 to 90,000 in 100 years. The population in the Jemez Mountains is now about 5,000 to 8,000 elk. However, the continuing effects of the fire on Jemez Mountains elk are difficult to predict, and that could impact many stakeholders, including hunters, landowners, communities and management agencies.

Los Alamos County has reported numerous elk-vehicle collisions in previous years. Elk can also eat the bark off of mature aspen, leaving dark scars in the trees' white bark, which can lead to infections that kill the trees. On Bandelier National Monument, elk grazing and

trampling could impact the monument's cultural resources. Los Alamos National Laboratory is concerned about potential uptake and transport of contaminants by elk. In contrast, San Ildefonso Pueblo would like more elk on their land. How might these agencies be affected if the animals' movement and distribution patterns change in response to the May 2000 Cerro Grande Fire?

Habitat change following large-scale fires can influence an animal's feeding, movement and reproduction. It is generally believed that fire increases the amount and quality of plant species consumed by elk and, as a consequence, elk may prefer burned over unburned habitats. Dr. Steve Kohlmann, former elk biologist for the New Mexico Department of Game and Fish, is acutely aware of the changes the fire has brought to the mountains.

"Elk just love the new growth of grasses and forbs that come up after a fire," Kohlmann said. "In addition, we're seeing fewer prescribed burns on the Valles Caldera, where many of these elk spend the summer. The lack of burning on their summer range and the improved conditions on the Cerro Grande burn area may entice elk to shift their habitat use."

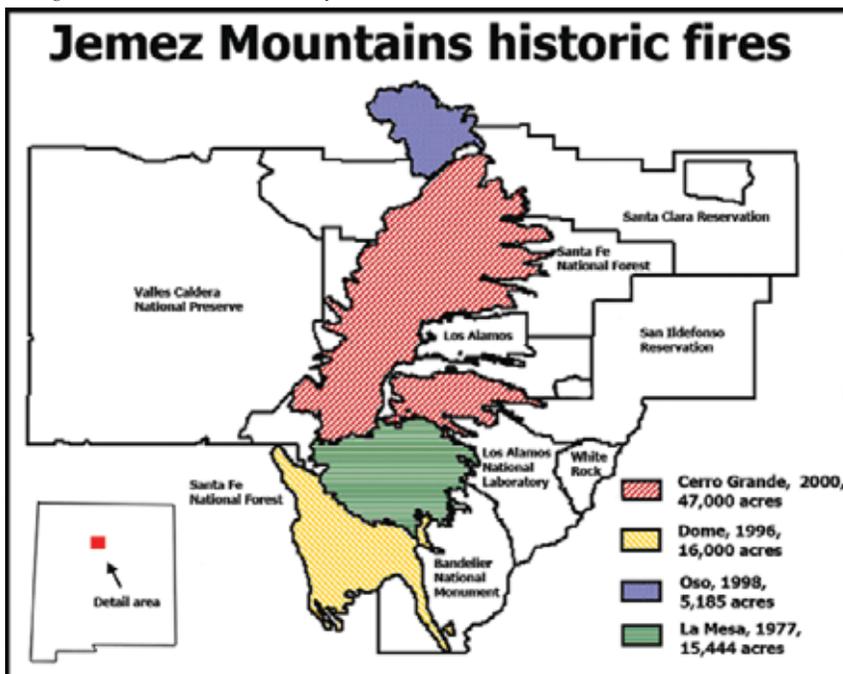
Models and data

Models take complex ecological processes and attempt to explain them in simple mathematical terms for the purpose of exploring data, formulating predictions and guiding research. They are useful tools in cases where opposing views or ethical considerations prevent field studies. They also provide low-cost alternatives to expensive large-scale field studies that are logistically difficult to undertake. Despite their usefulness, however, models are still a simplification of the real world.

Many people have said there is a motto in ecological modeling: "Garbage in, garbage out." Therefore it is important to make sure the data put in the model are reliable and the science behind it robust.

In the Jemez Mountains, researchers attached GPS radio collars to 54 elk over a two-year period. By communicating with satellites orbiting the earth, these radio collars gave scientists information about the exact locations of elk as

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often as every 15 minutes. The data allowed scientists to identify the habitat features used by individual elk so predictive models could be developed.

“We assumed the more often an animal occurs in a given habitat type, the more likely that habitat was important to their feeding, reproduction, and survival,” said Paul Rupp, one of the model’s programmers. “That is not always the case but, in general, it holds true.”

Using the locations from the GPS collars, a model was developed to determine how elk move through the habitat. That model was then integrated with another model, which simulated vegetation recovery following the fire by using information about the soil characteristics, historic weather patterns and topography of the area. Additional data on the climate, vegetation and elk population are continually collected over time to improve the model’s overall performance.

One obvious application of the model was to evaluate possible changes in elk movement and distribution and a potential increase in elk numbers following the Cerro Grande Fire.

In an attempt to answer that question, researchers used the model to simulate what would happen if the elk population doubled in size in the Jemez Mountains over the next 20 years. Results showed plants growing back in the severely burned central portion of the Cerro Grande Fire over time. Simulated animals initially used areas along forest edges next to areas that were severely burned. However, after the vegetation started to grow back, the animals began expanding north into these severely burned areas. In addition, a potential new movement corridor emerged to the far north. New areas were being explored by the simulated animals.

Smoke and mirrors?

How do we know what the model predicted will actually occur? How can we test future predictions when the future has not happened yet? To many it may appear like smoke and mirrors, but this is where the science that went into the development of the model becomes apparent.

Remember the statement “Garbage in, garbage out?” Though large amounts of field data were used to develop the model, some data were separated out before model development in order to test it. Researchers ran the model during the same time period in which those data were collected to see if the model would predict what those data from the field showed. Results indicated the model accurately simulated vegetation production, weather patterns, and elk movement and distribution when compared to data collected in the field. In addition, researchers are able to validate today what the model predicted would happen a few years ago.

The model consistently predicted that elk may increase their activity farther north into the burn area as the vegetation recovered. Today, we know that to be true. Animals are starting to move north into the burn. Simple observation indicates the model is working and additional field studies can be developed to verify these observations.

“We have seen some increase in elk use in the northern portion of the burned area as suggested by the model based on indirect measures of use such as pellet group counts and forage use,” said James Biggs, a biologist at Los Alamos National Laboratory who is continuing to research elk use in areas burned by the Cerro Grande Fire.

These results could have several management implications. First, it tells managers where elk might gather and whether resources may be at risk of over-consumption. Scientists can take this information and develop new studies to verify those findings. Secondly, it allows us to protect areas that may be important for elk reproduction,



Photo: Dan Williams

The Jemez Mountains elk population has soared to 5,000 to 8,000 animals since the species was reintroduced to the area in 1943. Research indicates recent wildfires may contribute to habitat changes that may spur even more increases in Jemez elk numbers.

movement, and survival. By protecting these areas, managers can better ensure the elk population continues to prosper for hunters, wildlife viewers, and others who are interested in elk. In contrast, areas where too much elk use might cause problems – like along portions of roadways – can be targeted for management to provide motorists with early warning systems when elk are on the road or to make those areas less attractive to elk. Finally, scientists and managers can monitor changes in movement and distribution patterns of elk to evaluate how different agencies in the region may impact elk or how elk may impact the missions of the agencies.

A piece of the puzzle

The Jemez Mountains elk population is an important resource for outfitters, guides, and hunters, as well as for families around New Mexico who love to drive up to the Valle Grande to show their children herds of elk in their natural habitat. New Mexico has a reputation of producing trophy bull elk because New Mexico Game and Fish lets the bulls grow old, and at the same time harvests just enough cows to prevent the population from exceeding the carrying capacity of the habitat. With the Cerro Grande burn, we are looking at an elk smorgasbord right next door to some pretty fragile places, which could cause some intense friction.

The model is now being used across the Jemez Mountains to answer questions beyond those generated by the Cerro Grande Fire. One example is assessing potential elk-cattle interactions on the Valles Caldera National Preserve. The model will help evaluate such things as the effects of different pasture-rotation grazing systems, the potential impacts of elk and cattle on riparian systems, the health of elk and cattle populations, and even the influence of predators such as bears, mountain lions, and coyotes on elk. Data collected in the field are continually fed into the model to improve its predictive power, and the model is then used to identify field studies where information may be lacking.

“Clearly, for wildlife scientists and livestock managers, the use of simulation models for estimating the ecological impacts of large ungulate (hooved animal) herds is an important tool,” said Robert Parmenter, chief scientist for the Valles Caldera Trust. “Field experiments are extremely expensive and can require many years of data collection – such experiments are actually ongoing in the Valles Caldera National Preserve – but resource managers can use the mathematical models to predict general outcomes and identify problem areas ahead of time. This model is an important tool in our management toolbox.”



Photo: Dan Williams

Hungry elk often will eat the bark of mature aspen trees, leaving black scars that can leave the trees vulnerable to infections.

Susan P. Rupp, Ph.D., helped develop the Jemez Mountains elk model. She currently teaches at South Dakota State University, Department of Wildlife and Fisheries Management, Northern Plains Biostress Laboratory, in Brookings, S.D.



Partners



in flight

Story by Tania Soussan,
photos by Dan Williams

The look on Tom Smylie's face as Sir Anthony soars and swoops through the air is unmistakable.

He is utterly content and right at home as he stands in the middle of an Edgewood field and watches the falcon show off his amazing flying skills. Sir Anthony, a 6-year-old peregrine, is perhaps the most energetic of Smylie's raptor team and his excitement to fly is irrepressible.

He can go 2,000 feet or more in the air, so high Smylie can't see him, and then dive down on prey below. "It sounds like a freight train coming down," Smylie said.

Smylie, a retired assistant regional director of the U.S. Fish and Wildlife Service, is one of fewer than 100 licensed falconers in New Mexico. They hunt wild quarry – such as ducks, rabbits or quail – in its native habitat with a trained raptor. Sometimes called a sport, sometimes an art, it is addictive and becomes more of a lifestyle than a hobby for those who get involved.

"It gets to be an obsession," said Matt Mitchell, president of the New Mexico Falconer's Association. He got his first glimpse at falconry four decades ago at age 14 and was hooked on the spot.

"I saw that and thought it was about the coolest thing I had ever seen," he said. "It's kind of been a big part of my life ever since."

Other longtime New Mexico falconers agree.

Tony Huston, a Taos screenwriter and novelist, said falconry has been the great passion of his life ever since he first saw a falconer at age 7 and then took it up himself at 13 while growing up in Ireland.

"It's been the keel through my life," he said, adding that it has led to changes in his life as well. "Sometimes it's a girlfriend who says it's either me or the bird, in which case I've had to say, 'Well, it's been a pleasure knowing you, honey.'"

Smylie, who is in his 50th year flying falcons, has been addicted longer than most.

As he stands in that Edgewood field and swings a lure – a bullet shape of stuffed worn leather like a super-sized cat toy on a string – Sir Anthony swoops in low to the ground. Just as the bird approaches and pulls up a bit to grab the lure with his sharp talons just as he would catch a bird in flight, Smylie yanks it away. Unfazed, Sir Anthony circles around for another pass.

When Smylie finally lets him grab the lure, Sir Anthony latches on with his strong feet and lands on the ground close by, waiting for Smylie to come to him. He hops back on the gauntlet and gets some food as a reward.

The conditioning routine, known as stooping to the lure, has been practiced by falconers for centuries.

Falconry is a 3,000-year-old art. It was practiced by Genghis Khan, King Henry VIII and Louis XIII of France and was a part of ancient Arab culture. Today, there are 4,000 falconers across the United States. They are strictly regulated by state and federal governments and must complete a two-year apprenticeship with a master falconer. A written exam and inspection of the birds' facilities is required for a permit.

"It's easier to get a pilot's license," Smylie said.



Master falconer Tom Smylie uses a leather lure to train and exercise Sir Anthony, a 6-year-old peregrine falcon. For several passes, Smylie pulls the lure away from the bird at the last second. On the final pass, he releases the lure and allows Sir Anthony to catch it and earn his reward of a tasty quail.

"The purpose of that is to protect the birds." Falconry stands apart from other forms of hunting most notably because the birds need care 365 days a year. A raptor can't be put away like a gun when hunting season is over. Falconers spend time with the birds each day, feeding them, checking on their health and, ideally, flying them.

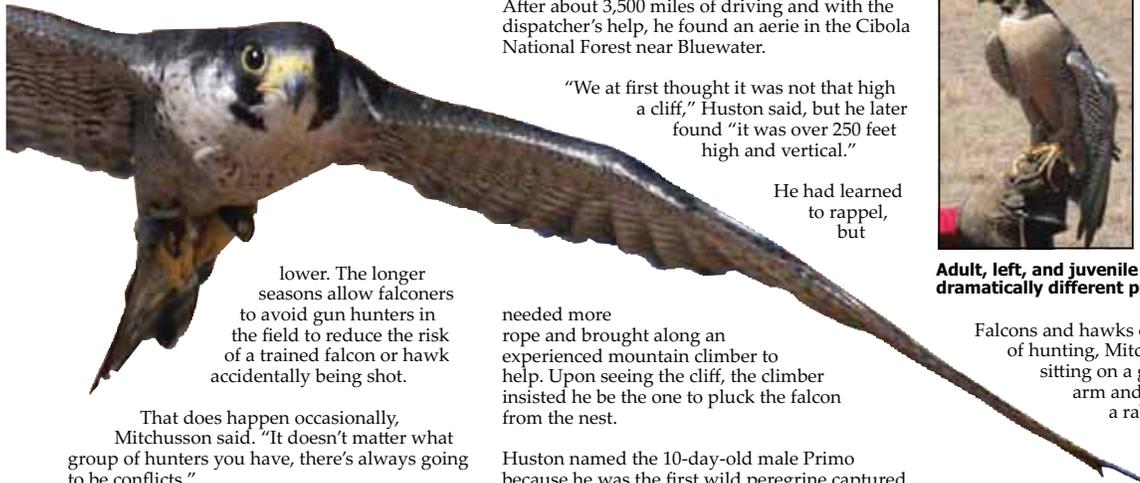
"It really is a lifestyle commitment," said Frank Bond, who puts in two hours or more a day with his gyrfalcon (a large falcon native to tundra habitats), getting up early to go duck or grouse hunting with him before going to work at his Santa Fe law practice. "It's not something you do just on the weekend. You have to think of a bird of prey as an athlete. They can't sit around all week and then perform on the weekend."

Also unlike gun and bow hunters, falconers feed most of what they catch to their birds. New Mexico is a good place to be a falconer because of the broad range of quarry to hunt as well as abundant public land and fairly good weather year-round. There also is a wide variety of raptors that can be taken from the wild to be trained for falconry – ferruginous hawks, merlins, American kestrels, Cooper's hawks, great horned owls, prairie falcons, red-tailed hawks, sharp-shinned hawks, northern goshawks, Harris's hawks and peregrine falcons.

The state Department of Game and Fish has been a strong supporter of falconry, added Bond.

"New Mexico is a very falconry-friendly state," said Tim Mitchusson, game-bird biologist for the department. State regulations guide and limit the capture of raptors for falconry as well as the falconry hunting seasons. In general, falconry seasons are longer than the seasons for other hunters, although bag and possession limits are





who had made searching for peregrine aeries his hobby for a decade. After about 3,500 miles of driving and with the dispatcher's help, he found an aerie in the Cibola National Forest near Bluewater.

"We at first thought it was not that high a cliff," Huston said, but he later found "it was over 250 feet high and vertical."

He had learned to rappel, but

lower. The longer seasons allow falconers to avoid gun hunters in the field to reduce the risk of a trained falcon or hawk accidentally being shot.

That does happen occasionally, Mitchusson said. "It doesn't matter what group of hunters you have, there's always going to be conflicts."

Some animal rights activists oppose falconry because it is a form of hunting, but Mitchusson said it's a valid method and added the birds are very well taken care of.

"All we're doing is duplicating what the birds do in the wild," Smylie said.

While most falconry birds today come from captive breeding, falconers defend the practice of taking some birds from the wild. Some 70 percent or more of nestlings don't live past the first year, so they have a better chance in captivity. And, many raptors are returned to the wild after a couple of years.

In fact, falconers are responsible for the recovery of the peregrine species after pesticide and DDT poisoning pushed them to the brink of extinction.

Smylie and Bond were among the first to breed peregrines in captivity and both were founders of the Peregrine Fund, helping to get the falcons off the Endangered Species List in 1999.

"To me, the skies would be empty without them," Smylie is fond of saying.

The fastest birds on earth, peregrines partially fold their wings into a teardrop shape as they dive at more than 260 miles per hour – faster than a skydiving human – and then pull out just half a second before hitting the ground. They undergo more than 25 Gs of deceleration, more than 2 ½ times what a trained fighter pilot equipped with an oxygen mask can handle, Smylie said.

Peregrines also can see eight times better than people, spotting a lure from a mile or more away, and have large feet that allow them to catch birds in the air.

Bond, who has been at falconry since 1963, has been the Peregrine Fund's longtime attorney. He also is the first American ever elected president of the International Association for Falconry and has been attorney to the North American Falconers Association for almost 30 years.

In 1971, he was the last person in New Mexico to take a peregrine from the wild before the species was listed as federally endangered.

It wasn't until Aug. 8, 2007, that Huston would become the next falconer to take a wild peregrine in New Mexico. State rules allow only one peregrine to be taken a year and only by a master falconer, someone with at least seven years experience.

It was quite an operation.

Huston was assigned by the state Game and Fish Department to a part of New Mexico where aeries – lofty raptor nests – were practically unknown. But, he ran into a truck dispatcher

needed more rope and brought along an experienced mountain climber to help. Upon seeing the cliff, the climber insisted he be the one to pluck the falcon from the nest.

Huston named the 10-day-old male Primo because he was the first wild peregrine captured in so long, took him home and raised him in an old bathtub in his living room.

Primo grew up part of the family and imprinted on Huston. "He thinks he's a human being," Huston said. "He's completely comfortable with people."

After a year of training, Primo is incredibly strong. On one fall day, he spent almost an hour chasing ducks in a gale and had a great time. His tally for the hunting season was 11 ducks by mid-November, Huston said.

"This year, he's turning into something spectacular," he said. "He's actually turning into the hawk of a lifetime."

Falconry hasn't changed much since its early days. The advent of radio telemetry units so tiny they can be easily carried by a falcon and transmit a signal 40-50 miles is the biggest change. Falconers used to put bells on their birds, and they lost them much more often. Now a bird that flies off can be tracked and lured back in.



Adult, left, and juvenile peregrine falcons have dramatically different plumage.

Falcons and hawks offer very different styles of hunting, Mitchell said. Hawks ride sitting on a glove on the falconer's arm and then jump up to chase a rabbit while falcons fly above and wait for the falconer to flush game.

"A really good bird will wait for half an hour or more," Mitchell said.

It takes about a month to train a bird by using positive reinforcement with food rewards, but it isn't at its best for three years or so and can keep flying for 15 or 20 years, Mitchell said.

"It takes patience because you can't dominate birds," he said. "You can only coax them. ... You can't say, 'bad bird,' and slap it."

Eventually, the raptor and falconer develop a complex relationship and cue off one another. At home they can act like clowns and be so tame they're almost like puppies, Mitchell said. "Yet you let them loose into nature and they turn into winged terminators, just ruthless," he said. "When you see raptors do what they do close up and personal, it's just amazing."

When Mitchell first got interested in falconry in the late 1960s, he and a friend went to listen to a nature talk given by Smylie. Afterward, they went to speak to the well-known falconer but were strongly discouraged from taking up the sport.

"We felt so dejected, but it was his way of trying to put people off who weren't serious about it," Mitchell said.

Smylie, whose house and workshop are filled with falconry art and collections of books, custom-made falcon hoods and other items, hasn't changed his ways. He still gives aspiring falconers the cold shoulder until he knows they're committed.

"When people call, I always blow them off until they keep calling," said Smylie.

There's no question about Smylie's commitment. He spends 30 to 45 minutes a day handling each of his birds and another 1 ½ to 2 hours flying them unless the weather is bad. Along with Sir Anthony, he has two other falconry birds: EZ, a 2-year-old male Harris hawk taken from a nest in Carlsbad, and Rachel, a 2-year-old female bred at the Peregrine Fund.

Smylie also does educational shows at Wildlife West Nature Park in Edgewood and breeds raptors in the off-season, both activities that help defray the costs of keeping the birds. And although Smylie jokes that "only a few people are nuts enough to do it," to him, the investment of time pays high dividends.

"To take a bird that has the freedom of the skies and train it and form a partnership: It's the most advanced form of bird-watching," he said.

Tania Soussan, a journalist for 20 years, is a freelance writer based in Albuquerque.



Wildlife, history await visitors at Jackson Lake

By Dan Williams

From the time of the Basketmakers of 600 AD to today's growing rural population in San Juan County, the valley along La Plata River has been considered one of far northwestern New Mexico's fertile gems.

Today, the same lands first cultivated by Native Americans, and then Mormons in the late 1800s haven't changed much. An ample water supply still fills a good-sized lake and supports a variety of crops. The only difference is that today's agricultural bounty is grown to feed waterfowl, quail, deer and other wildlife.

Nestled along the La Plata just five miles northwest of Farmington, Jackson Lake Wildlife Area is an historic green belt in the path of booming encroachment from an oil and gas economy. Residents know it as a special place where they can go fishing, take a leisurely hike, maybe see some deer or a rare songbird.

"Jackson Lake has a lot of potential for all kinds of wildlife-related recreation," said Matt Wunder, chief of the Conservation Services Division of the New Mexico Department of Game and Fish. "It is especially valuable because of its close proximity to a large urban area. Our goal is to improve it, keep it open for the public to enjoy, and at the same time protect it for the wildlife and for future generations."

Wildlife habitat improvements

The Department recently completed a massive project to remove salt cedar and other invasive plants that were choking the La Plata riparian habitat and sucking up vast quantities of water. Areas were opened for newly planted grasses, willows and cottonwoods that will help sustain more wild birds and other wildlife.

The east side of the 840-acre area flanking N.M. 170 consists of farmland cultivated for waterfowl and a resident herd of about 50 deer. Access currently is limited and hunting restricted in the farm area, but that could change, said Mike Gustin, the Department's assistant chief for wildlife habitat.

"As we move forward with projects to improve habitat, protect historic sites and provide food for the waterfowl, we should be able to create trails and offer some wildlife-related recreation on the east side," Gustin said. "Our main objective right now, though, is to make sure everything is right for the wildlife."

Most recreation at Jackson Lake Wildlife Area currently is around the 60-acre lake, originally impounded by Mormon farmers in the 1880s for irrigation. A trail leads visitors to the lake, where they will find picnic areas and chances to catch stocked rainbow trout, largemouth bass



and channel catfish. Waterfowl and dove hunting is allowed in part of the area, but there is no camping.

The State Game Commission bought the Jackson Lake properties in three pieces, 440 acres in 1947, 320 acres in 1959 and 80 acres in 1960. An adjacent 400 acres are leased from the State Land Office, and 320 acres from the U.S. Bureau of Land Management are managed as part of the wildlife area.

Historical value

Archaeological surveys from the 1970 to the present have revealed several prehistoric sites in the wildlife area, from early Basketmaker and pueblo sites from 600 to 700 AD to more modern structures and graves from the Mormon occupations in the 1800s.

Department Archaeologist Jack Young said the area is rich in archaeological sites that reflect the area's agricultural history and cultures. Protecting those values, he said, would also benefit the wildlife that inhabit the area today.

Jackson Lake Wildlife Area near Farmington includes a 60-acre lake where anglers can catch trout, bass and channel catfish. The La Plata River runs through the east side of the area, where recent salt cedar removal cleared the way for more native plants to improve wildlife habitat.

Photos: Dan Williams



"Like most areas of San Juan County, this area is vulnerable to development," Young said. "The Department is trying to be responsible and manage the property in the best interest of the wildlife and cultural resources."

"Cultural resources can't be replenished," Young said.

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. For more information about GAIN and the Jackson Lake Wildlife Area, please visit the Department Web site, www.wildlife.state.nm.us and click on "Wildlife Adventures."





Trails help New Mexicans stay connected

Plan envisions system linking communities, parks, ecosystems

Story and photos by Marti Niman

The Santa Fe Trail, the Camino Real, the Goodnight-Loving Trail, the Long Walk Trail: New Mexico has a rich legacy of trails, each bearing witness to the human drama of generations of travelers. Today, high-speed freeways have replaced the arduous treks of our ancestors, but the open trail lures many of us to take the trail less hasty.

Today's trails serve not only travel, but also recreation, wildlife viewing, education, physical fitness and community connections.

The image of trail user may conjure a solitary hiker in heavy lug-soled boots with walking stick, backpack and floppy hat. But trail users are as diverse as the terrain they traverse: Mountain bikers in neon-hued jerseys; rollerbladers in kneepads and ear buds; cowpokes on horseback; elderly and disabled in wheelchairs; parents with strollers; snowshoers, skiers and snowmobilers – all are trail users.

Trails in New Mexico can be as short as the 420-yard Planet Walk at City of Rocks State Park or as long as New Mexico's 740-mile segment of the Continental Divide Trail. New Mexico State Parks, as administrator of the Recreational Trails Program and the State Trails System Act, has a hand in numerous trail projects within and beyond the borders of its own parks.

State Parks Director Dave Simon has made trails a priority, with a goal of 100 miles of new trails by 2010.

Crossing New Mexico's heart

In October 2004, State Parks launched a goal of completing a trail along the Rio Grande. The proposed Rio Grande Trail would travel roughly 700 miles along the river corridor through the heart of New Mexico, traversing lava-strewn gorges, lush bosque, stark Chihuahuan desert, villages and urban cityscapes. This ambitious project eventually will be a pathway between Texas and the Colorado border and



The Rio Grande Trail, when completed, would stretch about 700 miles through New Mexico from borders with Texas and Colorado. Hikers, horseback riders and other visitors would enjoy diverse terrain, wildlife and scenery. One section of the trail is planned to traverse the bosque near Mesilla, above.



possibly beyond, connecting communities, providing fishing and boating access, outdoor education opportunities and a connection to the past.

"Completing the Rio Grande Trail will take cooperation from diverse groups -- state and federal agencies, municipalities, counties, private landowners, non-profits and others," said David Certain, State Park trails coordinator.

Numerous sections exist along the river corridor, such as Albuquerque's 16-mile Paseo del Bosque and the Wild Rivers area south of the Colorado border. The challenge is to connect the dots between these scattered patches of existing trails. The river corridor poses a challenge for trail planners, who must navigate numerous landowners, agencies, irrigation districts, municipalities and others who share a dedicated passion and stake in this desert state's longest waterway.

The state Legislature appropriated \$4 million for the first phase of the Rio Grande Trail, focusing on the middle and southern sections. Plans have begun for a section of trail from Belen to Sunland Park.

State Parks also began building segments of the Rio Grande Trail through river parks such as Elephant Butte and Caballo Lake.

The Mid-Region Council of Governments has taken the lead to plan, design and build the Rio Grande Trail from Bernalillo to Belen to extend the existing trail in Albuquerque while trying to keep it as close to the river as possible.

"This section of the trail is supposed to be like the Paseo del Bosque Trail and serve bicyclists, pedestrians and equestrians," said Julie Luna, the council's trail planner. "The Rio Grande Trail is a really big, visionary dream. My goal is to make it as good as possible right now, but not preclude the dream of a future bosque alignment the entire way."

New assets for parks, visitors

In contrast to trails that cross multiple jurisdictions, trails within state park boundaries are easier to complete. At Heron Lake State Park, 11 miles have been completed toward a 30-mile trail around the lake for bicycling, snowshoeing, cross-country skiing and hiking in mostly undeveloped, rugged terrain.

Sumner Lake State Park has the agency's first trail specifically for mountain biking. Leasburg Dam, Navajo Lake and Elephant Butte Lake state parks also have new trail projects and State Parks contributed more than \$200,000 to the Continental Divide Trail.

One of State Park's newest trails is City of Rock's Planet Walk. Each interpretive sign describes a planet in the Earth's solar system, beginning at the sun and ending at Pluto. The trail length and intervals between signs represent equivalent distances in space miles. Every human step of about 30 inches is equivalent to 6 million space miles.

"It helps give people perspective by putting it in human terms," said Steve Cary, park natural resource planner. "People find out why they call it space."

The Planet Walk at City of Rocks State Park near Deming is an interpretive trail that helps visitors understand Earth's solar system. Intervals between signs represent equivalent distances between planets in space miles. Each human step is equals 6 million miles.





Starry, starry nights

Parks celebrate many wonders of the night sky

By Marti Niman

For centuries, humans have looked to the sweep of stars across the dark night sky and discovered a deep connection to their ancestors and a pantheon of cultural heroes trailing legends in the wake of stardust. The universe was an intimate and awesome presence, at once humbling and expansive, that connected civilizations to their ancestors and their starry origins.

In this century we have all but lost that connection. The once-familiar rhythms of the moon, stars and galaxies have vanished behind a veil of electric urban fog and the stars that guided our ancestors have been supplanted by brightly-lit highway signs, road maps and GPS units. Reach for the Stars, a program launched by New Mexico State Parks in 2004, aims to address that disconnect.

"Reach for the Stars is an umbrella program under which astronomy outreach occurs," said Steve Cary, parks natural resource planner. "It includes Stars-n-Parks, star parties, night sky protection and a statewide astronomy school curriculum under development."

State Parks began offering astronomy programs in 1999 with the help of the Albuquerque Astronomy Society. State Parks Director Dave Simon initiated much of the start-up funding for the program and, in 1999, authored the first comprehensive study of light pollution in National Parks and worked on the passage of New Mexico's statewide night sky protection act.

Four years ago, the state Legislature allocated \$80,000 to support education in a one-time appropriation for marketing, supplies, program output and contracts with outside presenters. Since then, State Parks has dedicated about \$20,000 annually for the program's operating budget, including contracts with outside presenters such as the non-profit National Public Observatory based in Radium Springs; Peter Lipscomb, director of the Night Sky Program for the New Mexico Heritage Preservation Alliance; and Alan Hale of Comet Hale-Bopp fame, and others.

State Parks contracts with local astronomers for their professional expertise but is not lacking for enthusiastic participants among staff and volunteers. Fueling that enthusiasm are two solar-powered, computerized Meade telescopes permanently housed in 12 x 16-foot structures that resemble Morgan sheds more than exotic-sounding observatories. One is at Clayton Lake State Park and the other at City of Rocks State Park near Deming. New Mexico is the first state park agency in the country to build these kinds of observatories.

"That thing does everything but cook your breakfast," said volunteer Sally Allen of



Solar-powered, computerized telescopes give visitors to New Mexico State Parks a new look at the universe while encouraging everyone to guard against light pollution.

Photo: Lisa Cat

nearby Rockhound State Park. "It can lower to wheelchair level and still keep the night sky object in sight. Thousands of objects are computerized for viewing by punching a code into a hand-held remote."

At Clayton Lake, Park Manager Charles Jordan said that initially there was only casual interest in astronomy programs. When the Star Point Observatory opened there in 2006, volunteers Art Grine and Pete Mansfield were so amazed they took astronomy courses on their own.

"Terrell Jones, the high school science teacher, invited us to a star party with the junior high school kids," Grine said. "We decided to take an astronomy class, then the observatory was built and it took off from there."

Grine also got certified as a solar power technician to keep the solar-powered system working at optimum and slept on the concrete floor for several nights during the park's Trout Derby to protect the observatory from potential vandalism.

Although the "stars" of the program are the two observatories, star parties are conducted at parks across the state. Local astronomy buffs bring their own telescopes to share the night sky with visitors, school groups and others.

"We start with a tour of the night sky using

green laser lights and the naked eye, so people can find their way later without our help," said John Gilkison of the National Public Observatory. "Then we go to the telescopes, where visitors often wait in line for their turn."

Oliver Lee State Park near Alamogordo draws on volunteers from the New Mexico Museum of Space History to offer science-oriented deep-space exploration that complements the park's cultural and historic look at constellations.

"The New Mexico Museum of Space History Astronomy Group is very professional in their knowledge and approach to public programming," said Park Interpreter Charles Wood. "They have a large volunteer base in the community and a real passion for educational outreach."

Cary said that most programs take place in the southern part of the state during the winter months because the evenings are less challenging from a temperature perspective. That doesn't seem to chill the star buffs at Clayton Lake, despite the notoriously bone-rattling arctic fronts that frequently bellow across the eastern plains.

"Cold winter nights are the best time to see stars," Jordan said. "They just roll the roof back

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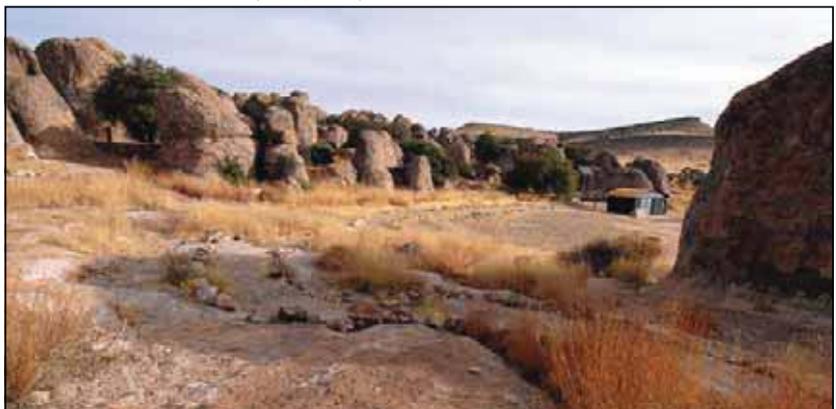
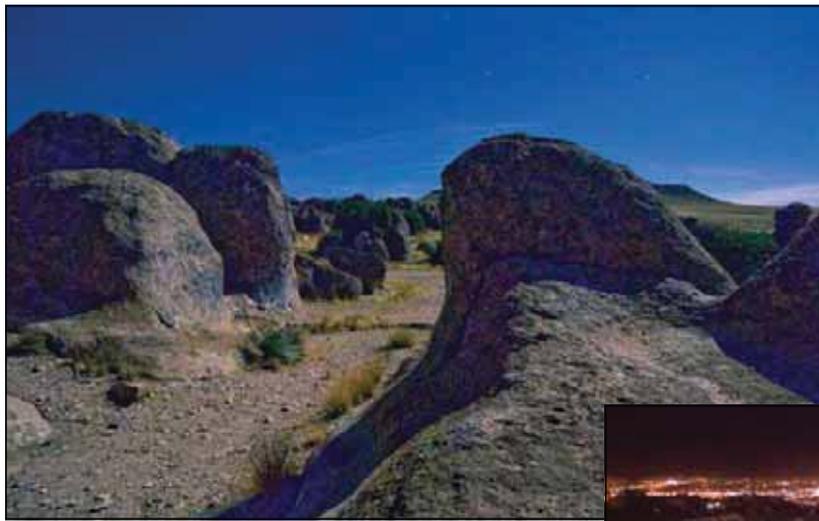


Photo: Marti Niman

A 12- by 16-foot building nestled in a dark corner of City of Rocks State Park houses a powerful Meade telescope that brings night-sky objects into focus with a touch of remote controller.





Photos: Marti Niman

A moonlit night at City of Rocks State Park is a welcome refuge from the urban light pollution in cities such as Albuquerque, where it is difficult to see more than a few stars.

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and the observatory walls shield the wind. The volunteers brought in church pews, a coffee pot and a kerosene heater and they stay out there until 4 a.m.”

The Clayton volunteers raised \$500 for a custom cover for their telescope and had enough money to send one to the City of Rocks observatory as well. The volunteers also were instrumental in the recent passage of a night-sky ordinance by Union County – an effort to restrict human-caused light pollution.

“We’ve been very fortunate with help from Susan Harder, who lives back east in the Hamptons and has 10 years experience writing ordinances,” Grine said. “She wrote ours for the county and the city of Clayton is getting ready to pass one as well.”

One unexpected perk from the star parties is the economic boon to the local community. A group of 300 to 400 astronomy enthusiasts from Kenton, Okla., gave a presentation to Clayton businessmen, explaining that they visit Clayton because of its dark skies.

“When they heard that, the business people sat up and took notice,” Grine said. “We now

Night sky events

Visit www.nmparks.com for more information about Reach for the Stars, or contact:



- Steve Cary, (505) 476-3386
- City of Rocks State Park, (575) 536-2800
- Clayton Lake State Park, (575) 374-8808
- Oliver Lee State Park, (575) 437-8284
- Heron Lake State Park, (505) 588-7470

have 25 sponsors we promote as “dark-sky businesses.”

The volunteers and the community raised enough money in two days to repair damage to the telescope’s remote control and also raised money for a telescope monitor, so several people at once can see the night-sky objects in relative comfort. The Clayton Astronomy Club has about 35 members and has gone international.

“We have members from Florida, Minnesota, Spain and even Australia,” said Grine. “They pass through here and a month later we get a letter with a donation enclosed.”

“We have a great example in Clayton where having a facility with a telescope has created a nexus of interest in the community,” Lipscomb said. “Generations have grown up in Clayton with the night sky as a backdrop and we are stepping on our heritage if we lose it.”

Lipscomb said that preservation of the night sky began as a specialty cause among astronomers and others with a vested interest, but it has grown to a broader base of concern that includes cultural identity, aesthetics and energy and wildlife conservation.

Light pollution essentially is caused by bad lighting design that shines beams skyward rather than downward.

“Billions of dollars are wasted every year by poorly controlled lighting situations,” Lipscomb said. “It’s extremely wasteful of both money and resources.”

“We are trying to get the word out to turn lights off if you don’t need them and use shields to direct light downward,” Allen said. “We give out information on good lighting and bad lighting along with star charts and sky calendars.”

The Clayton volunteers convinced the warden

at the new prison to switch its lighting to high pressure sodium lights that emit four times less glare than standard lighting and to install appropriate shields to guide the light toward the ground rather than the sky. Citizens can shift their home lighting to motion detectors, compact fluorescent bulbs and light shields.

“These are actions each of us can take,” Lipscomb said. “So often we feel disenfranchised, but these are simple changes that can save us money and reduce light pollution at the same time.”

Another less visible impact is the effect of all this intense and unnatural light on the natural adaptations of numerous species to their circadian rhythms – including our own.



The biological effects of light and darkness on many species are being studied by researchers under the relatively new field of scotobiology – the science of darkness. Scotobiologists look at the positive effects of darkness on biology, not

merely the absence of light. They are exploring how biological and behavioral activities of plants, animals and insects require darkness to function effectively.

The alternation of light and darkness can be critical for some animal breeding behavior, flowering and dormancy in many plants and the workings of the human immune system. Many animals are nocturnal but are compelled to navigate an artificial and unending diurnal world that derails their migration, reproduction and feeding habits. An example is the paralysis and disorientation of wild and domestic animals in the face of oncoming headlights.

“Parks are ideally situated in rural areas that have dark skies where people spend the night outdoors, so we found a good niche; we had something no one else had except perhaps the National Park Service,” Cary said.

City of Rocks State Park has added a Planet Walk trail that connects the visitor center with the observatory and equates to actual solar system distances (Please see Happy Trails, Page 11).

Heron Lake State Park near Chama soon will have an observatory, thanks to its dark night skies, Rio Arriba County’s night sky ordinance, strong local support and the park’s central location in the northwest region of the state. State Parks hopes to complete construction of the observatory in 2009 during the International Year of Astronomy, which celebrates the first astronomical use of the telescope by Galileo. The astronomy center will cost \$90,000 to \$120,000. A fourth observatory is being considered for eastern New Mexico in 2009 if funding allows.

Marti Niman is the public information officer for the New Mexico State Parks Division. She can be reached at (505) 827-1474 or marti.niman@state.nm.us.



Otters

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Otters, a diverse coalition of otter supporters. In the 1980s, she was among the first to organize support for otter reintroductions. Today, she's anxiously awaiting more otters for planned transplants in the Rio Grande and Gila rivers.

"It's been worth the wait," Savage said. She estimated that New Mexico Friends of River Otters spent as much as \$60,000 to bring the first group of otters to the state. "And there were so many in-kind donations of people's time," she said. "In the end, it took a broad array of partners, from federal agencies to nonprofits to individuals."

River otters are highly social, playful, semi-aquatic members of the weasel family. They are believed to have once inhabited the Gila, upper and middle Rio Grande, Mora, San Juan and Canadian river systems. Early settlers occasionally mentioned otters in their journals, but references were infrequent, leading biologists to speculate that otter populations were small. In 2004, scat and tracks discovered in Navajo Lake indicated a few otters have migrated south from Colorado, one of many states that have reintroduced otters in the past 30 years.

Jim Stuart, the Department of Game and Fish mammalogist, said river otters have thrived almost everywhere they have been reintroduced. Some states, including Ohio and Missouri, experienced such dramatic increases in otter populations that the animals started raiding fish farms and hatcheries. Missouri's otters were most prolific, growing from 70 to 15,000 animals from 1982 to 2006.

Such huge population increases are unlikely in New Mexico, where prime otter habitat is limited to a few river



The Rio Pueblo de Taos should provide excellent habitat for river otters recently released on Taos Pueblo land. It contains crayfish, suckers and trout, all favorite foods of otters. Some otters already have traveled downstream to the Rio Grande, where there is an even more plentiful food supply.

Photos: Dan Williams

systems, Stuart said.

"Putting otters in the Rio Grande Basin will be a good learning experience while we consider putting more in the Gila, and possibly other rivers," Stuart said. "Right now we don't know how many otters the Rio Grande system can support. We'll have to be flexible with that."

The Upper Rio Grande was chosen as the first otter release site because of its reliable water flows, good food sources and relatively undisturbed habitat with little human activity. Adjacent lands are controlled by the U.S. Bureau of Land Management and Taos Pueblo,

both supporters of otter restoration. A feasibility study conducted by the New Mexico River Otters Working Group and the Department of Game and Fish identified six suitable release sites: the Upper Rio Grande, the Rio Grande in White Rock Canyon, the Rio Chama from El Vado Dam to Abiquiu Lake, the Upper Gila River, Lower Gila River and the Lower San Francisco River.

In 2006, the State Game Commission approved the study and directed the Department to initiate efforts to restore otters in the Upper Rio Grande and the Gila River. Releases in the Gila River were delayed as the Department works to resolve any possible conflicts with endangered species. Initial efforts to acquire otters from Oregon failed in 2007 when trapping was unsuccessful. Success came in October 2008 when Bruning, a former biologist with Taos Pueblo, successfully trapped otters in Washington state and transported them to New Mexico for release on Pueblo land.

As it turned out, the people who knew the otters in Washington were as happy to see them go as New Mexico was to get them.

"These were otters associated with specific nuisance and depredation issues," Bruning said. "One had moved into a fire boat on Puget Sound and was rearranging things and making a big mess. The others were taken from marinas and fish-rearing facilities, where they were either making messes or had the potential of getting into trouble. Two were taken from a creek that flows into



Photos: Jim Stuart

Otters were transported to New Mexico from Washington State in plastic and aluminum crates. At the release site, the otters were placed in special boxes and then allowed to explore their new home at their leisure.

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a fish hatchery for coho and Chinook salmon."

So does that mean New Mexico is getting Washington's delinquent otters? Not necessarily, Bruning said.

"Because they happen to live near people doesn't mean they're habituated to humans," he said. "These otters hunt for themselves and are very wild. They may have been a nuisance to some people, but that just means some individuals have different levels of tolerance for otters being otters."

Savage, with the Four Corners Institute, said otters may be the perfect animals to reintroduce to their historic range in New Mexico.

"They don't eat garbage; they don't eat cows. They eat fish," she said.

River otters' favorite food is fish, but they'll eat almost anything they can catch. In the Rio Grande, they'll dine on a buffet that includes crayfish, carp, chubs and trout. There should be plenty to eat. One theory suggests that otters will go for the easy catch and eat mostly crayfish and rough fish. So far, anglers haven't expressed much concern that the otters might put a dent in trout populations.

"I'm not too worried about them in the Rio Grande," said Arnold Atkins, president of the Truchas Chapter of Trout Unlimited. "They'll probably eat mostly trash fish ... and some trout if they can catch them." He said he wouldn't mind seeing a few otters while he's out fly-fishing the Rio Grande Box.

"They're cute little fish eaters," he said.

Five weeks after the first five otters slid into the Rio Pueblo de Taos, three more had made the trip from Washington state. By then, at least one otter had made tracks several miles downstream at the Rio Grande and tracks were found along the Rio Grande near the John Dunn Bridge, 15-20 miles from the release site. Eventually, those same otters or their offspring could disperse through the Rio Grande system down to Cochiti Lake, up the Chama River or north to Colorado, Stuart said.

If future releases around the state are successful, limited trapping of otters may be possible, Stuart said. River otters currently are not on federal or state endangered or threatened species lists.

"In New Mexico, otters are considered protected furbearers with no take allowed," he said. "It's quite possible -- at a future date -- that we could see a harvest, but we'll have to wait and see." He said historic records indicate otters were not numerous enough in New Mexico to provide trappers a good income. In 1931, mammalogist Vernon Bailey, chief naturalist for the U.S. Bureau of Biological Survey, noted in his



Photo: Dan Williams

North American river otters

Names: River otters belong to the family mustelidae, which includes weasels, badgers and skunks. The river otter's scientific name is *Lutra canadensis*.

Description: Adult otters weigh 15 to 25 pounds and measure 40-60 inches from their nose to the tip of their tail, which comprises about one-third of their body length. Females usually are about 25 percent smaller than males. They have short legs, a thick neck and a muscular body broadest at the hips. Their fur is black-brown, lighter on the belly, with grayish chins and throats.

Behavior: Graceful and powerful, otters can swim about 6 mph, dive to 60 feet and remain underwater for more than four minutes. On land, otters can run as fast as a man and reach speeds of more than 15 mph by alternately running and sliding on snow and ice. About half their time is spent sleeping. Adults and young love to play tag, hide-and-seek, water games, wrestling and sliding on mud and snow. Otters often are found in groups of family units, bachelors or pups that remain together after the family separates. Fighting among otters is very rare.

Habitat: Rivers, streams and lakes with clean water and fish. Males have been known to range up to 50 miles. Females



Washington Department of Fish and Wildlife

River otter tracks show five pointed toes around a small heel pad. Tracks are 3 to 3½ inches wide and 3 to 4 inches long.

typically stay within three to 10 miles of their den.

Food: Fish, crawfish, occasionally frogs, salamanders, snakes and insects.

Breeding: River otters are sexually mature when they are 2 years old. A female will then mate with the male of her choice and produce one litter of usually two to four pups between January and May each year. Newborns open their eyes at about 35 days, are coaxed into the water at about 14 weeks and are weaned by 4 months. Otters can live and breed for more than 20 years.

Say what? River otters make a variety of sounds. They growl, howl and whine. Deep muzzling may reflect contentment. A loud "hah!" signals an alarm, while softer chirping noises indicate anxiety.

book, "Mammals of New Mexico," that otters were too uncommon to be of any marketing importance.

Whether New Mexico's river otter population ever reaches the numbers required to support limited hunting and trapping will depend upon the initial success of the New Mexico Friends of River Otters. The group is one of the state's largest, most diverse and dedicated organizations formed to support a single species. Members include Amigos Bravos, Taos Pueblo, Earth Friends Wild Species

Fund, New Mexico Wildlife Federation, Center for Biological Diversity, Defenders of Wildlife, Four Corners Institute, Rio Grande Chapter of the Sierra Club, Upper Gila Watershed Alliance, and the U.S. Bureau of Land Management.

Savage said the group is keeping its goals modest for now.

"Our target is 60 otters -- 30 in the Rio Grande and 30 in the Gila," she said. "We think that's what it will take to really get them started."



Bob-tailed cat



Story by Kevin Hansen,
illustrations by Marti Niman

If you spend a lot of time outdoors, exploring New Mexico's mountains, deserts, and river bottoms, you might be rewarded with a glimpse of a bobcat, one of the most secretive animals in the state. These little hunters prefer wild country, but it is not unusual to see them trotting along canals near town or watching from the edge of the city park. While you may not have seen many bobcats, you can bet many of them have seen you!

Bobcat basics

Though shy, bobcats are much more common than their much larger cousin, the mountain lion. Bobcats are twice the size of a house cat, weighing between 15 and 40 pounds. They are grey or brown with dark spots on their sides and white bellies, and stripes on their face and legs. But you know you are looking at a bobcat when you see their short tail — only five to six inches long, white underneath with dark bands on top. At the other end, you will notice bobcats have short tufts of dark hair on the tips of their ears and a white spot on the back of each ear. There is also a collar of fur on each side of their face, making them appear to have giant sideburns. Their spotted coat is excellent camouflage and it allows them to stay hidden while wandering in the forest hunting rabbits.

What's on the menu?

Bobcats are predators, meaning they eat other animals to survive. Their speed, quickness, quietness, sharp claws and teeth make them excellent hunters. They eat rabbits, rodents (rats and mice), birds, chickens, deer and even fish. Rabbits are their favorite, especially cottontails and jackrabbits. Because rabbits can run so fast, bobcats have to sneak up close and surprise them. Bobcats are very patient and have been known to hide next to trails for hours waiting for their lunch to come along. Other times they will wander in search of prey. Small prey like mice are eaten whole, while larger prey are fed on, buried, and then returned to later. Yum!

Wandering wildcats

Bobcats love to wander, and are found all over New Mexico, from the high mountains

to the hot deserts, and from rocky cliffs to thick riverside forests. Rocky slopes and thick brush provide good hiding places where bobcats can rest and safely raise their young. However, it is not unusual to see these wild cats near towns or cities, hunting in backyards or adjacent arroyos, anywhere there are rabbits or rodents. Bobcats space themselves out and stay within their own territories, similar to human neighborhoods. These territories are called home ranges and they include hunting areas, travel routes, water, resting areas, and dens. Home ranges can be as small as a few acres and as large as several square miles, depending on the amount of prey (food) and places to hide. Each bobcat must have a home range to ensure a place to hunt and survive.

What's in a name?

It is the short, or "bob" tail that gives the bobcat its name and makes it different from other cats. The name also may come from the "bobbing" or up-and-down motion the bobcat makes when it runs. Some call the bobcat a wildcat, because of its willingness to fight when it is threatened. Bobcats are also found in northern Mexico, where the Spanish name is gato montes, or mountain cat. The bobcats' northern cousin is the Canada lynx, which looks very similar, is about the same size but is less spotted. Recently some Canada lynx have wandered into northern New Mexico from Colorado.

Baby bobcats

Bobcats mate in the late winter or early spring and mothers have their babies two

months later. The father leaves the mother after mating and does not help raise the young.

When ready to give birth, the mother hides in a small cave, under a rock ledge, in a hollow log, or even under a brush pile. She gives birth to two to four kittens and usually has one litter a year. Newborn kittens are balls of blind and helpless fur weighing 6 - 12 ounces. Their eyes open in 9 to 18 days and they begin to explore their den. Mothers use more than one den, especially when raising young. She frequently moves her kittens to different dens to protect them from predators such as great horned owls, coyotes, mountain lions and other bobcats. Her kittens will remain with her through the summer and fall and even into winter while she teaches them how to hunt. Eventually they will leave her and wander in search of their own hunting territory (home range). The next year she will mate and the cycle begins again.

Bobcats and people

Because bobcats occasionally attack goats, sheep, chickens, and ducks, farmers and ranchers see bobcats as threats that cost them money. In the past, bounties (rewards) were offered to anyone who killed a bobcat.

Poisons were also used to control bobcat numbers. Bounties are no longer offered and poisons are illegal. However, bobcat fur is used in making clothing, so the animals are legally hunted and caught in steel traps. They are then killed and skinned and their fur is sold for money. A bobcat fur can be worth \$300.

More than 3,000 bobcats were trapped for their fur in the winter of 2005-2006 in New Mexico.

Bobcats are beautiful animals that have an important role in nature. They are not a danger to people and while you should respect all wild animals, you do not have to be afraid of them. If you are lucky enough to see a bobcat the next time you are outdoors, enjoy it!

Kevin Hansen is the southwest regional interpreter for New Mexico State Parks and the author of three books: "Bobcat: Master of Survival," "Cougar: the American Lion," and "Crimes Against the Wild: Poaching in California."

