

Nevada's airborne irritants

Ravens threaten endangered wildlife, ranches

By Henry Brean
Las Vegas Review-Journal

LAS VEGAS — Never mind the Super Bowl team from Baltimore, who defeated Northern Nevada favorites Colin Kaepernick and the 49ers.

In Nevada, real ravens pose a growing problem for ranchers, wildlife managers and two well-known species struggling to survive.

The clever and adaptable black bird preys on both the desert tortoise and the sage grouse — the former already protected under the Endangered Species Act, the latter on track to join it.

Efforts to save those species could mean death for more ravens. Already, the birds are killed by the thousands in Nevada each year.

Some people think far more ravens need to die. Others believe the wholesale murder of them won't accomplish anything — and it might just make things worse.

But the raven isn't waiting around to learn its fate. It just keeps reproducing, learning new things and expanding its range.

By some estimates, raven populations nationwide have grown by 300 percent in the past 40 years. In Nevada, the increase is thought to be more like 500 percent.

Humans

The raven succeeds on the spoils of our success. It feeds on our garbage, hunts from our transmission towers and follows our highways to new territory, dining on roadkill along the way.

"We're literally paving the way for ravens to move farther and farther into the desert," Jason Jones, a herpetologist with the Nevada Department of Wildlife, told the Las Vegas



A raven, center left, prepares to take off as other types of birds flock to Apex Landfill north of Las Vegas. A

Review-Journal.

Common ravens grow to about 25 inches in length and weigh more than 2 pounds. They can live for more than 20 years and survive almost anywhere.

"You find them in Death Valley in the summer and at Prudhoe Bay, Alaska, in the winter," said John Hiatt, longtime conservation chairman for the Red Rock Audubon Society. "They're everywhere there is something to eat."

They're also among the smartest birds around. They solve puzzles, avoid threats and exhibit behavior that resembles play.

Shawn Espinosa, a staff biologist for the Nevada Department of Wildlife, said we should all be glad the birds don't have opposable thumbs.

"They might rule the world," he said with a laugh.

Killing ravens

Almost 20,000 common ravens have been legally killed across Nevada in the past 12

years, according to state figures.

Last year alone, the Department of Wildlife killed 1,997 ravens, three birds shy of the limit set by its U.S. Fish and Wildlife Service permit.

The raven, as it turns out, is a protected species as well. It falls under the Migratory Bird Treaty Act of 1918, which covers more than 80 percent of birds native to the United States. For the time being, state wildlife officials plan to keep killing as many ravens as the law will allow, though they acknowledged that such efforts might well be futile.

There is some research that suggests killing ravens could increase their concentrations — that when a mated pair is killed, two pairs of ravens will take over the open territory, effectively doubling the number of beaks to feed. Even so, the state has spent almost \$150,000 to poison 6,850 ravens in 10 Nevada counties since 2007.

Hank Vogler has been running livestock in White Pine

County for almost 30 years. His spread in Spring Valley, in the heart of sage grouse country, is home to more than 6,000 sheep.

It's also a magnet for ravens, which foul his water troughs, steal food from his rams and kill up to 100 of his lambs each year by pecking out their eyes and tearing at their umbilical cords.

"Let me go to the window," Vogler said by phone one recent Thursday. "Yep. Out where the rams were fed this morning, it's absolutely black with crows."

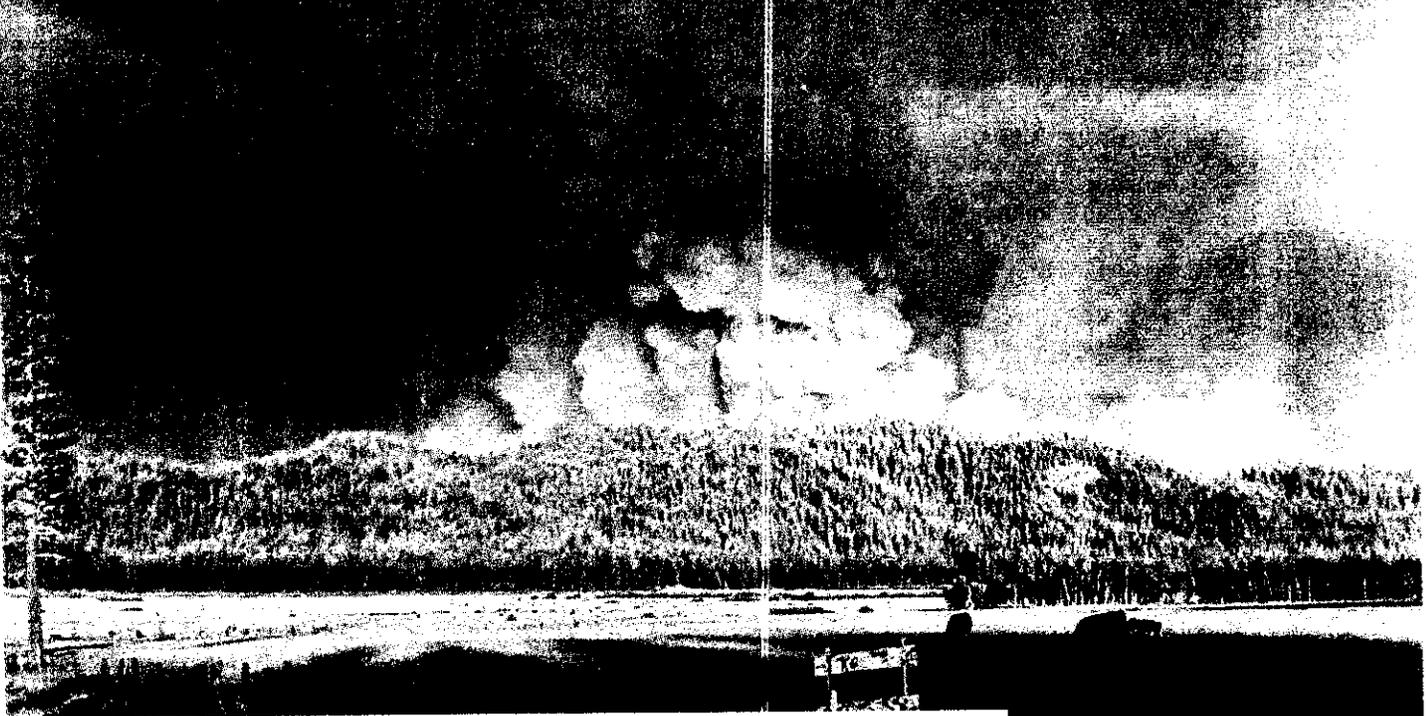
He can go out and blast away at them with a shotgun, but they're smart enough to keep their distance. If they see him with a gun, they will just wait for him to leave and go back to stealing feed.

As far as he is concerned, killing ravens has proven ineffective only because wildlife officials haven't killed enough of them yet.

"Do I want to see every crow on Earth, every raven, die? No," Vogler said. "But do we need 600 percent more of them than we did before? No."

2012 WILDFIRES

67,774 FIRES BURNED 9.3 MILLION ACRES NATIONWIDE, INCLUDING ABOUT 860,000 ACRES IN NEVADA. AT AN ESTIMATED \$1.96 BILLION, IT WAS THE COSTLIEST YEAR EVER FOR FIRE SUPPRESSION. 2013 COULD BE WORSE.



By Jeff DeLong
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The sheer size of the wildfires that burned across a dry nation in 2012 helped drive the cost of quenching flames to an estimated \$1.96 billion, making for the costliest year for fire suppression ever, experts said.

Fifty-one fires larger than 40,000 acres – including several that burned vast swathes of range in Northern Nevada – cost more than \$580 million to extinguish, according to a summary released by the National Interagency Fire Center.

It's a costly and damaging trend that, with a second dry winter seemingly taking the West in its grip, shows every sign of continuing in 2013.

"It was extensive, among one of the more extensive in recent history," Ken Frederick, spokesman for the Boise-based fire center, said of last year's destructive season.

"It's estimated it will be the most expensive," Frederick said. "Any way you

INSIDE

After coming in \$400 million over budget last year, the U.S. Forest Service says it might let more fires burn instead of attacking every one of them. **3A**

cut it, it's expensive."

Drought conditions in Nevada and across much of the nation combined with warm summer temperatures and often windy days to produce huge wildfires that burned long and charred vast islands of vulnerable terrain, Frederick said.

While the numbers are still preliminary, the estimated \$1.96 billion to fight fire on federal land in 2012 would surpass the previous record of \$1.92 billion in 2006, Frederick said. The bulk of the cost – \$1.5 billion – was spent to battle wildfires on land managed by the U.S. Forest Service. Another \$460 million was spent to fight fire on Bureau of Land Manage-

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PAST NEVADA FIRE YEARS, ACRES BURNED

2011 | 417,400

2010 | 23,800

2009 | 33,300

2008 | 71,900

2007 | 890,100

2006 | 1.3 million

Source: National Interagency Fire Center, Western Great Basin Coordination Center, Nevada State Forester

ABOVE: A plume of smoke from the Chips Fire rises above the Plumas National Forest in Northern California, on Aug. 18.

AP FILE/INQUIRER PHOTO

School police could play larger off-campus role

Wildfires

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ment land, much of that in Nevada.

More than 9.3 million acres burned, roughly matching the amount of land charred in 2007 and only surpassed by the 9.8 million acres burned in 2006.

The second-largest fire in the country last year was the lightning-sparked Holloway Fire, which burned more than 460,800 acres in both Nevada and Oregon.

That fire burned for a month and cost more than \$9.1 million to suppress, according to the center's summary.

The Holloway Fire and two other large lightning fires that burned in Nevada in August, the Bull Run Complex and the Dallas Canyon Fire, cost nearly \$17 million to sup-

press combined.

In some cases, fires burning in remote locations grew so large in part because firefighting resources were engaged fighting other blazes where lives and neighborhoods were at risk, Frederick said.

"It's very typical those types of fires will get a lower priority than fires that are threatening homes," Frederick said. "We simply don't have the army of resources it takes to combat a large number of fires."

A snowy December left many with high hopes 2013 would produce fire hazards at diminished levels from 2012 but a remarkably dry January and February has largely dissolved such optimism, said Nevada State Forester Pete Anderson.

He predicts another busy fire season for the Silver State and others parts of the country.

"We had a lot of high hopes but

unless something turns around, it looks like we're going to be pretty dry," Anderson said. "I know the Forest Service and BLM are both very concerned. You just never know where that fire is going to start and who is going to be impacted."

"I'd say we're looking at something comparable to last year. It's been pretty dry," Frederick agreed. Early season fire danger will be dictated to a large degree by what happens in the spring and how mountain snowpacks melt, he said.

Whatever happens in 2013, studies indicate a warming climate could bring fire seasons of the future that significantly surpass what occurred last year, Frederick said.

"It won't be surprising if we start to see 10- to 12-million acre fire seasons," he said. "It could happen. It may well happen."

Spring is Coming!



Photo 1. In our tests, any sheep which ran from coyotes usually were pursued and attacked. Coyotes generally select lambs over ewes if they have a choice.



Photo 2. Our coyotes usually attacked by running alongside fleeing sheep and biting them behind and below the ear. Then they braced their feet to stop the sheep from running. In this picture two 2-year-old coyotes are attacking a 90 lb. ewe.

Cover story

How Coyotes Kill Sheep

By Robert M. Timm and
Guy E. Connolly

COYOTE PREDATION is a serious problem for many sheep ranchers in North America, but the act of predation is seldom witnessed under range conditions. Therefore, the sheep-killing behavior of wild coyotes has received little study. In experiments with captive animals, we

obtained photographs which illustrate what we believe to be the usual mode of coyote attack on sheep. The resulting wounds are characteristic of coyote predation, even though dogs or other predators may sometime inflict similar wounds.

The 12 coyotes used in this study were either captured as pups or born in captivity. At the time of these trials, eight of the animals were 2 years old and four were yearlings; none had had previous hunting or prey-killing experience. Nevertheless, five of these coyotes killed and fed upon lambs at the first opportunity. Three more coyotes, which did not attack sheep



Photo 5. The throat attack pattern of coyotes leaves characteristic lesions which may or may not be externally visible. This coyote-killed ewe showed few external wounds, but sub-cutaneous examination revealed extensive tissue damage and hemorrhaging in the larynx region. Tooth punctures can often be found in the overlying skin.

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Photo 3. As soon as the coyotes arrested the flight of the sheep, they shifted their bite toward the sheep's throat. Once a firm grip was secured in the larynx region, the coyote simply held on and waited for the sheep to succumb. This manner of attack appeared to cause death primarily by suffocation, although blood loss and severe tissue damage also occurred. The time from onset of attack to death of the sheep or beginning of feeding, which ever occurred first, averaged 13 minutes. In 24 of the 25 fatal attacks, the neck and throat region was the main point of attack.



Photo 4. As soon as the sheep stopped struggling, the coyote(s) began feeding. On 9 of 21 kills where feeding was observed, the coyotes entered the body cavity and ate intestines and other viscera. They also fed upon the rump or hind leg (10 cases), the neck (7), front leg and shoulder (7), head (6), and other sites. On the average, each coyote fed for 25 minutes and ate about 4 pounds. Coyotes fed just before tests killed sheep but did not feed on them.

at first, did so in later tests. Of the 11 coyotes which were tested singly against individual 30 to 70-lb. lambs, eight killed the lambs.

In our tests, one to four coyotes were released into a 0.4-acre pen with 1 to 6 sheep, usually for 2 to 5 hours. The coyotes killed one or more sheep in 22 of the 46 tests. For the tests in which a fatal attack occurred, the time from release of coyotes to onset of attack varied from 1 to 154 minutes, with an average of 47 minutes. Of the coyotes tested individually with single lambs, the dominant animals (2-year-old males and the females paired with them) attacked most frequently. Yearling males attacked less frequently, and the two unpaired females did not attack sheep.

While we cannot be sure that wild coyotes will sheep in exactly the manner we observed with captive animals, the wounds resulting from our tests resembled those reported by many workers who studied coyote predation under range conditions. Therefore, we believe that the killing patterns we saw are generally representative of coyote predation on sheep.

On ranges where mountain lion, black bear, and bobcat predation is improbable, tissue damage, tooth marks, and hemorrhage in the larynx

region on sheep carcasses is commonly indicative of coyote predation. However, coyotes sometimes attack the hindquarters of sheep. Dog-inflicted wounds seem to be more variable than those caused by coyotes. It is reported that dogs tend to attack the hindquarters, flanks, head, and/or abdomen of

the sheep and seldom kill as cleanly as do coyotes. Wounds caused by dogs can usually be recognized as such, but at times they are indistinguishable from those made by coyotes. In such cases, tracks and other evidence at the scene often indicate which species of predator caused the damage.



Photo 6. A coyote consumed about 5 pounds from the rump of this 70 lb. lamb without killing it. We have seen range sheep with similar wounds. Of 25 coyote kills we observed, this was the only case in which the attack was not directed primarily to the neck and throat area of the sheep. Extensive feeding on the rump and hind leg, as shown here, also occurred on about half of the sheep killed with the customary throat hold.