Floating Menace

Photo by Jeff Dye
Researchers say latex party balloons pose a unique threat to southern California’s population of bighorn sheep because of the way sheep eat and digest food.

Story by Rebecca Barboza
While researchers have seen a growing number of mylar balloons—the shiny, less permeable metalized plastic films—in the same environment, only latex has proved a problem to sheep. The extent of balloons littering the environment might surprise visitors to the wilderness, but not those who work there. And those who work in bighorn sheep habitat say they see it too often.

“I think it is fair to say that balloons are a common occurrence in the forest,” says Kathie Meyer, a supervising biologist with the San Bernardino National Forest. “My staff regularly encounters and collects balloons, and when I worked for the National Park Service I dedicated an entire section of my office to all of the balloons that I personally collected.”

Working with DFG’s Inland Desert Region, Tim Glenner has flown as net gunner during dozens of helicopter surveys of bighorn sheep throughout the state. “During one three-day survey we counted 76 balloons in the San Gabriel Mountains,” Glenner recalls. “I’ve had an aerial view of every bighorn sheep range in California and the balloon problem seems to be increasing in the southern mountain ranges.”

The swell in latex balloons recovered from natural habitat crosses international borders. More than a year ago the British Broadcasting Corporation reported researchers there had marked a 260 percent increase in the number of balloons observed on Britain’s beaches over the last 10 years. The newscast, referred to
in the June 2008 issue of Herp-Digest, a scientific and conservation publication on reptiles and amphibians, stated nearly 60,000 balloons were identified during a two-day international survey.

The impacts of latex balloons on wildlife—both terrestrial and aquatic—appear profound, but fortunately they are also preventable.

Researchers agree that ingested balloons and balloon fragments can potentially harm any species of wildlife. But bighorn sheep may be particularly at risk because of the way they eat and digest food. Bighorn sheep have the same digestive system as cows, goats, domestic sheep and other cud-chewing animals. They eat only plants, and have a specialized four-chambered stomach which extracts nutrients from indigestible plant materials. These animals do not chew food thoroughly as they graze. Instead, the un-chewed matter empties through the esophagus into the first stomach, called the rumen. Here, the plant matter softens and is kneaded into a mass and an initial process of fermentation by microorganisms begins. Larger food particles are later regurgitated back up through the esophagus into the mouth where it is re-chewed into smaller bits. This process continues as the food passes through the remaining stomach chambers. During this progression, microorganisms convert indigestible cellulose into nutrients that the animal can utilize for energy. Meanwhile a by-product of fermentation, methane gas, builds up inside the gut and is expelled as the animal belches.

“Foreign objects do not pass through the ruminant digestive system easily,” says Dr. Ben Gonzales, an associate wildlife veterinarian with DFG’s wildlife investigations laboratory. “Because of the complex process of regurgitation and re-swallowing, objects like latex balloons and their plastic strings can interfere with digestive processes and may create or contribute to numerous conditions that could ultimately result in death.”

Balloons are not easy to swallow and animals can choke on the latex material. Unless the object is removed, suffocation and death can occur. In addition, the thin, rubbery material can block the esophagus, preventing the animal from expelling gasses. This can develop into ruminal tympany, a life-threatening condition
By Rebecca Barboza

State and federal wildlife agencies can maximize the bighorn sheep’s existence by improving habitat and monitoring the population’s health and movements, says Chanelle Davis, a DFG wildlife biologist, but the public holds the solution to the problem in their hands—literally. “We cannot solve the balloon problem without the public’s help,” she says.

Although balloons are a traditional way to celebrate, they can create a hazardous situation to our natural resources unless people utilize them in a responsible manner. Small efforts like proper balloon disposal make a huge difference when everyone participates. Everyone can enjoy balloons without risk to wildlife by following some simple suggestions:

- Consider filling balloons with air instead of helium to reduce the distance they travel.
- Do not release balloons outdoors.
- Attach weights to balloon strings or secure them tightly to solid objects.
- Use natural biodegradable, cotton string to tie balloons.
- Dispose of balloons after the celebration with a balloon-popping contest.
- Take the initiative and dispose of balloons that have been discarded in the environment.
- Some schools and businesses celebrate by displaying or releasing scores of balloons. Make an effort to discourage the practice and suggest alternative decorations.
- Share this information whenever possible.

The public can contribute to the success of a wildlife management program by encouraging change and educating others. The bighorn sheep is a symbol of the western wilderness and part of our natural heritage. Please join us in our mission to conserve California’s wildlife for future generations. For additional information about bighorn sheep management programs in southern California, contact DFG’s South Coast Region at (888) 467-4201, or the Inland Deserts Region at (909) 484-0167.

Wildlife biologists also worry over an accumulation of indigestible balloon parts, material that remains inside the animal and gives it a false sense that the stomach is full. If the animal constantly feels full, it won’t eat sufficient amounts of food. Over time, it could starve itself.

Biologists want to understand the apparent draw of wildlife, especially bighorn sheep, to latex balloons. There’s little information available to explain why these animals eat foreign objects like balloons in the first place or why they’ll continue to chew the hard-to-swallow latex. Some anecdotal evidence suggests the animals intentionally target the bright-colored objects and not inadvertently swallow them while grazing.

“Domestic goats and certain big game animals like pronghorn have been known to approach red objects, but we don’t yet know if it is out of curiosity or some other, more practical reason,” says Villepique, the associate wildlife biologist.

An optimal balance between soil type, weather conditions and moisture promotes flower-production in plants, which can be an indicator of high-quality forage for wildlife.

“Bighorn sheep might be more likely to target brightly-colored objects because they mistake them as high-quality forage,” Villepique says. “But, again, we have not yet determined this experimentally. This is just one of many possible hypotheses that might explain this behavior.”

Rebecca Barboza is an Associate Wildlife Biologist with the California Department of Fish and Game, South Coast Region.
Bears, mountain lions, trapping, fishing, scuba diving, technology, junior hunts, conservation, restoration and development, Thin Green Line, making tracks on the water and in the field, fly fishing, hunter safety, volunteers, wildlife, Keep Me Wild, coyotes, roost, lovable, backyard wildlife, outdoors, seizing stolen goods, littleneck clams, streams, resources, trout in the classroom, bass, tournament, gold rush, mud pots and volcanoes of Imperial Valley, underwater, water ouzel, American River, mule deer, turkey, wardens, dope bust, hood, open range, changing seasons, Bighorn Council, plants, freshwater, boats, quagga, convictions, Pogue-Elms Award, ponds, passing, waterfowl, challenges, habitat, high mountain, burrowing owl, Salton Sea, night flight, reflecting, climate change, aerial, wildlife corridors, marine species, wildlife action plan, student program, aquatic habitats, warden, abalone, river otter, red-tailed hawks, governor, veteran, Pacific Flyway, casting, feathers, woodpecker, chukar partridge, goose hunters, condor, urban, catfish, baylands, restoration, dreams, hunt with dad, delta, smolt, leopard shark, ecological reserve, bullets, dreams in sights, sandhill crane, porcupine, wolverine, badger, enthusiasts, Clark’s grebes, tracks, at-risk species, brown trout, chasing criminals, bear traps, fish rescue, tree squirrel, sturgeon, hound trainers and lots more.

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