

The Dog's Nose Knows

You won't believe what these working dogs can smell.

By Sally Deneen

Part I: Sniffing to Help Animals

Eagerly leaning over the boat's bow as if ready to plunge into the water and drag his human companion in with him, Tucker may seem like any water-loving Labrador Retriever — except that his tail wags excitedly for an odd reason. He smells orca dung.

Courtesy Fred Felleman
Considered the world's first dog to make a living finding the scat of endangered killer whales, Tucker knows that when he smells that smell, it means one thing: The ball-crazed dog — and drug-sniffing-school dropout — finally gets to play with his favorite toy. It's his reward for alerting University of Washington researchers to the hard-to-find feces.

By analyzing the poop, scientist Sam Wasser, Ph.D., and his team hope to better answer a bedeviling question: What is killing the killer whales of the Pacific Northwest?

Dung analysis is a kind method of research because it avoids the need to chase elusive animals to take blood or tissue samples. Instead, Tucker can help orcas without even seeing one. Dung reveals many things, including what an animal eats and its DNA. If cortisol levels are high in scat gathered when whale-watching tourist boats are nearby, that could mean orcas grow stressed by sightseers. If the level of thyroid hormone is low, it could mean orcas aren't finding enough salmon to eat. Or that toxins in northwestern U.S. waters may play a role in the whales' declining numbers — now at about 90, down from 97 in the 1990s.

Increasingly, researchers employ dogs like Tucker to use their sensational sense of smell to benefit fellow animals.

Wasser's UW Center for Conservation Biology has an in-house team of about 13 canine sniffers, all "maniac dogs," Wasser says, who appeared destined for euthanasia until their overzealous passion for chasing balls made them clear candidates for sniffing jobs. To initially find them, a team member walked past their kennels while bouncing a ball. If a dog went ballistic, they took him to play fetch outside. If he refused to drop the ball even while relieving himself (or let it go only briefly), he passed the first test to join Wasser's team.

Training involves teaching the dog to associate, say, the scent of orca scat with the prized ball. For example, a dog will stand by a series of five holes, one of which contains the desired scent. The trainer says: "Find!" As soon as the dog sticks his nose in the correct hole, the trainer produces a hidden ball and gives it to the dog. After several tries, the dog learns: "Hmm, whenever I smell that smell, I get the ball. I love that smell!"

Helping scientists track at-risk wildlife is what these dogs do best. Labrador Retriever Mason assists University of Washington researchers.

Courtesy Bud Marks
In this way, Mason, another rescued black Lab, learned to sniff out the scat of caribou, moose, and wolf, and did so in 2-foot-deep Canadian snow! An oil company is poised to drill wells in the province of Alberta's sands, believed to contain the largest oil reserves outside the Middle East. As part of an environmental assessment of the area, Wasser's team is trying to learn: With new roads coming in, does the dung reveal high levels of stress hormones? Is pollution impacting the animals' food? Suppressing their immune system? So far, Wasser says, it's too early to tell.

Mason also padded through hot Brazil's most biologically diverse tropical savannah, the Brazilian Cerrado, to find scat from puma, cougar, maned wolf, and giant armadillo. As wild lands quickly make way for agriculture, Wasser's team is examining stress hormones in wildlife droppings and taking note of where Mason finds them. The team hopes to learn: How much land do these wide-ranging animals need to live in the wild?

Mason and two other dogs in the past year helped find 366 scat samples from giant anteater — "more than anybody has

ever gotten in the whole history” of anteater studies, Wasser says. “Absolutely fantastic.”

Probably the most famous dog helping native animals is Python Pete, the python-tracking Beagle at Florida’s Everglades National Park. About 15 reporters a day call park spokesperson Linda Friar about the python problem, famously depicted in that photo of a python exploding upon eating an alligator. Abandoned in the swamp by irresponsible pet owners, pythons can grow to 400 pounds and exceed 20 feet in length while eating prey needed by native alligators. No one knows how many lurk in the park, but officials removed more than 150 in 2006 without canine help.

Beagle Pete tracks pythons
in the Everglades.

Courtesy Everglades National Park Pete is leashed during his pursuits. “He’s too small and naïve to fend off alligators or large pythons,” notes park biologist Lori Oberhofer.

Pete was just a pup when Oberhofer chose the friendly Beagle because of the breed’s “scenting ability, enthusiastic nature, small size, and nice personality.” She admits, though, that most of it was personal preference. Many breeds and mixes can be trained as detector dogs.

Pete and the other sniffer dogs mentioned here share another trait — they’re adorable, and thus great for public relations. Whenever someone meets Tucker, the orca helper, he invariably jumps up, his strong 75-pound body leaping with full force. “I think he’s almost broken two people’s noses jumping up on them in excitement,” Wasser says. “We always have to warn people: ‘Don’t bend over.’”

Sally Deneen is a DOG FANCY contributing editor who lives in Seattle.

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