Why Is Rodent Tracking So Important?

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Both still and video cameras are increasingly being used within the pest control industry to help build an effective rodent control program. Combining new technology with traditional tracking methods can be much more effective and efficient, and less costly.

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“Tracking is one of the oldest tools in our toolbox,” said Tim “Timmy” Madere, special projects coordinator/pest control specialist for the City of New Orleans Mosquito, Termite and Rodent Control Board. “It’s an overlooked skill in our industry. We need to use it more in conjunction with technology.”

Madere addressed this important topic during his presentation, “Tracking and Technology: Old Methods Meet New Tools,” at a Rodent Control Virtual Conference

hosted by PCT magazine. Madere pointed out that the industry has become too habitual, such as automatically placing bait stations every 15 feet around the perimeter of a building without taking the time to ask why. Is it even necessary? Time, manpower and chemicals are costly. Learning proper tracking techniques can increase the effectiveness of a treatment.

“Too often we overlook details because we’re in a hurry,” said Madere. “I understand our industry is all about getting the job done quickly, but with rats you can’t be in a hurry. We’ve got to get out of the mindset that it’s only going to take a half hour to handle a rat call. Sometimes it could take you days to do it correctly.”

CHEESE! Some PMPs use still and video cameras for tracking, and both are being used more and more frequently within the pest control industry to help build an effective rodent control program. Combining technology with traditional tracking methods can be much more effective and efficient, and less costly.

“I can’t say enough good things about cameras and why we should incorporate them as a technology we use daily,” said Madere. “I’ve been using cameras for tracking for about three years.”

Video cameras provide PMPs with useful information for tracking rodents.“Cameras provide us with all kinds of useful information and help us identify where to focus our attention,” said Madere. “They can tell us the species we’re dealing with, which will help us determine the correct bait to use, and the types and placement of traps. They can help you estimate the population of rats or mice. And they can tell you when you’ve eliminated the problem.”

Capturing images is also helpful when performing exclusion work. It can help you identify original entry points and where exclusion may have failed. “If you’re doing rodent work and not including exclusion, you’re not doing it right,” said Madere. “Exclusion is something that should never be left out of any rodent control program. It’s key to taking care of rodent issues.”

Choose equipment that fits your budget and is easy to use. The memory capacity of your camera will dictate the number of images and length of videos you’ll be able to capture. “I’m using an 8 GB memory card and it takes a couple weeks of monitoring to fill the card.”

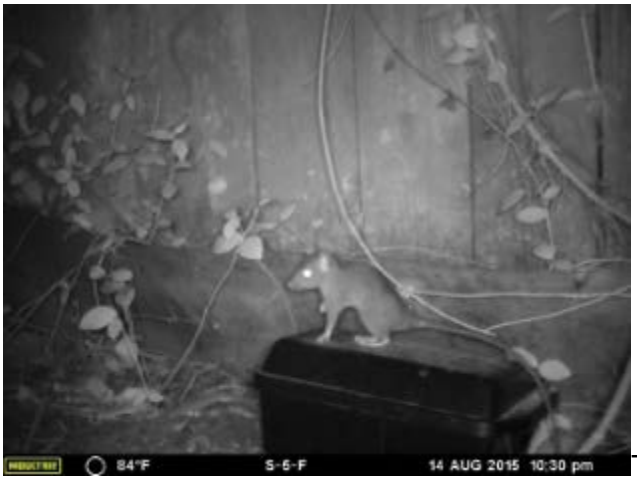
Your budget will dictate the number of cameras you purchase. The most convenient place to purchase cameras is through large online retailers. Sporting goods stores also

may be an option if you require a large number of cameras as they may offer bulk discounts.

Game cameras, such as those used for hunting, work well. They're affordable, made for outdoor use, and generally have an easy-to-use interface. The resolution and sensitivity is good for tracking both rats and mice. Their compact size makes them easier to place in tight spaces and hidden from view. "I recommend choosing cameras that can take both photographs and video in the daytime and at night," suggested Madere. Memory cards, usually sold separately, should have at a minimum an 8 GB capacity to minimize the number of trips you need to make to download images.

Start slowly, beginning with one to three cameras, at an account with which you're familiar. Focus cameras on known runs, stations with consistent feeding and traps with frequent catches.

"Pay attention to the exposure of the images and tweak the flash and placement accordingly," said Madere. "After a few successful sessions with the cameras, you can determine if they're a tool you want to use on a larger scale."



Timmy Madere captured this photo of a female roof rat. Photographing rodents is challenging. Knowing where to place cameras and lots of practice are keys to success, Madere said.

After the first inspection, you should be able to determine how many cameras to use and placement, which varies by job site and size, and the extent of the rodent territory. "Let runs, droppings, rubs, smells, shadows, lines and tracks guide you as to where cameras should be placed," said Madere. There are a number of non-rodent factors to consider when deciding the number of cameras and their placement, including human activity, vegetation and the security of the cameras.

LIGHTING INDOORS AND OUT. Lighting is one of the biggest issues. Indoors, for example, if a camera is mounted just 6 inches under a drop ceiling the flash will be reflected, and your image overexposed. The solution is easy: duct tape. Duct tape can be placed over the camera's flashers to control the amount of light. Every building and camera placement is different, so the amount of light needed is a matter of trial and

error. Initially, Madere recommends going back the next day to check the pictures and make necessary lighting and placement adjustments to ensure the exposure is correct.

Vegetation is something you may not consider affecting an exposure, but the sheen can reflect a lot of light. You may want to consider covering the vegetation if it's overexposing images from your optimal vantage point.

CAMERA PLACEMENT. "It can be difficult to catch some rodents in a trap. It can be just as difficult to get them on camera," said Madere. "Positioning cameras takes practice, patience and problem-solving to get the shots you need." You may have to sift through a significant number of images, especially when you're first using cameras.

"I helped a friend get started using cameras, which he used immediately at one of the hottest rat sites. He was excited when he got over 3,000 pictures in the first weekend and couldn't wait to start watching them. He was disappointed when he found that of the 3,000 pictures only 28 of them showed rodent activity and none of them were relevant to helping him solve the problem."

The culprit was the location of the cameras, which were mounted on the wall-like security cameras, about 5 feet off the ground facing straight forward. Most of them were under motion detection lights, which seemed clever. Unfortunately, the cameras already had lights, so most of the pictures were overexposed.

Placing cameras outside has its own challenges. "Another guy just randomly placed cameras outside. They don't work like that. You have to aim them at exactly where you want to take a picture. He got more pictures of birds flying and people walking by than any rodent pictures, because they were mounted way too high and weren't aimed correctly. You could end up with false pictures of your neighbors or leaves blowing in the wind," said Madere. Another major issue of working with cameras outdoors is rain, which may produce thousands of false pictures.

Positioning cameras higher up may take more work, requiring technicians to climb a ladder to monitor activity, but it's worth it, Madere said. You'll be eliminating a lot of potential issues. If you're working with roof rats, for example, mount cameras up high. The top of a window air conditioning unit or pipe chase can be used to capture good images and keep cameras secure.

Experience has shown that cameras capture the best images when mounted no more than 15 feet from the area you're trying to cover. Beyond 15 feet, you lose the ability to identify rodent movement. Regardless of camera positioning, rodents don't seem to be spooked by either the camera or the flash.

MOUNTING CAMERAS. Duct tape and industrial-strength Velcro are effective for securing the base of the camera and are both easy to remove when you remove the cameras. Mounting materials that don't work include: zip ties, which tend to break; string, which causes cameras to swing; and magnets, which may affect the memory cards and internal electronics.

Mounting cameras is a two-man job. "Have one person angling the camera and the other where you want the camera to shoot," explained Madere. Using the test light on

the camera, the person on the ground or on another ladder can ensure the camera you're placing is focused on the intended area.

CAMERA SECURITY. Securing cameras can sometimes be an issue. "The best recommendation I have is to only use cameras in secure sites. We haven't come up with a way to keep people from messing with the cameras," shared Madere. "Now we only use cameras in sites where access is restricted."

CONCLUSION. "Traditional techniques will improve rodent tracking and help determine where cameras should be placed," concluded Madere. "In combination, we're going to increase effectiveness, which increases productivity, which everybody loves."
The author is a Florida-based freelancer.

Additional Effective Tracking Methods

Detective skills. "To be a good tracker you have to learn to be a keen observer and see more than the obvious. You need to learn how to read a room or a yard," said Timmy Madere. The smallest details can tell a big story and help solve the problem. "Anyone can follow droppings. You have to start looking for signs beyond that."

Gnaw and rub marks. "Gnaw marks are obvious and are very helpful in identifying the species. Carry a ruler and measure the gnaw marks. It also lets customers know you really know what you're doing," said Madere.

Rats produce pheromone-filled, oily sebum to communicate with each other. The resulting rub marks will help PMPs focus their inspections and identify movement patterns.

"Rub marks aren't always found against walls. Traps could be placed against a wall for years and never catch a single rat. PMPs and clients could conclude, 'Well, I guess we don't have a rat issue,'" said Madere. But you shouldn't necessarily abandon placing traps and bait stations along walls.

I smell a rat! The smell of rats and mice is distinct. To use odor to help distinguish the two and reinforce the scent among PMPs, Madere has a suggestion: "I recommend getting a lab rat and a lab mouse and raise them for a week or so in separate aquariums. Gather the bedding and put it in a glass jar. Give new technicians a smell of each so they know the odor. It sounds like torture, but if you're going to be in our industry you should learn the smells. You can't have a weak stomach and work with rodents!"

Droppings. Droppings are an obvious method to track rodents. It's also important to be able to accurately differentiate between the droppings of house mice and cockroaches, which look very similar. Mouse droppings have pointed ends, bulge slightly at the center and, if you look closely, contain tiny hairs. Droppings of larger cockroaches are cylindrical with ridges running from end-to-end and have blunt ends.

Add a bit of color. Another way to help track rodent droppings is to use a monitoring bait that colors droppings and makes them glow under black light. "I think monitoring bait products are under used," said Madere. "It may actually give the urine a bit of a fluorescent stain, too," making it easier to identify using UV light. "You may actually be able to see the coloration without a UV light. So even in daylight, it's very easy to track."

Rat runs. “We don’t have to rely on walls anymore,” said Madere. “Yes, when rodents first get to a building or a new area, they run along the walls. They learn them and memorize them, but then they break out and start to explore.” Look for rat runs away from walls and place traps and bait stations along the runs for greater effectiveness.

Dust, chalk, talc and sand. “Dust is one of my favorite methods for tracking,” said Madere. “We all work in attics, especially when there’s a rodent problem. You’ll see tracks and know which runs they’re taking, and where to place traps.” You can add your own “dust” by using chalk or talcum powder to track activity.

Sand also works well for tracking. Place small, low dishes, such as petri dishes, of sand in a suspected run. Wet sand works particularly well, because it’s heavier and makes it less likely the dish will be knocked over. If you’re in an area of the country with sandy soil, look around the building for tracks.

Ink. Tracking rodent activity using ink is definitely for outdoor use, as it can be very messy. You don’t want to be responsible for cleaning up ink tracks.