

WILDLIFE WATCHING GOES HIGH-TECH

New apps, cams, and gizmos galore offer an intriguing window to the wild world

by
Eric **Aldrich**

You don't need fancy gadgets to enjoy New Hampshire's wildlife, just a curiosity about nature and a willingness to get outside. But some of the new high-tech equipment can help. And it may encourage folks, even those who might prefer the couch, to get outside and discover wildlife.

Game cameras, night-vision, listening devices, action cameras, and smartphone apps all enhance the experience of watching wildlife or keeping track of your adventures. Some are free, while others are pricey. Some come with a learning curve. All can add to the fun.

As the tech revolution brings once-expensive technology within reach of everyday consumers, we can expect to see a growing number of people in the field with these new tools for watching wildlife.

TRAIL CAMS

The most obvious high-tech tool to hit the woods is the trail camera. Also known as game cameras or "camera-traps," these digital gadgets have advanced light years from the clunky, expensive film versions of the 1990s.

Now you can buy trail cams for as little as \$100 or more than \$1,000, depending on your budget and ambition. A low-end camera will get you pretty good photos and short video clips of wildlife. A high-end cam will deliver crystal-clear photos and videos straight to your smartphone in real time, plus other bells and whistles.



Trail cams with camouflage design blend in well with natural surroundings.



Some trail cams are outfitted with infrared flash for capturing nighttime activity, wifi for real-time video, and even built-in solar panels for power.

Propelled into the consumer market by hunters, game cameras have rapidly caught on for those who want photos of nongame or game species out of season, such as black bear and white-tailed deer. I've used game cameras for years to get photos of flying squirrels, bobcats, ruffed grouse, wild turkey, black bear, and great blue heron. Images of each animal – whether caught by luck or intent – reveal many secrets of their ways. Likewise, trail cams can challenge us to learn those secrets to help us get the shots.

PERSONAL ACTION CAMERAS

You might think personal action cameras – GoPros and others – are just for snowboarders and surfers. But their small size, ultra-wide lens, and operability with smartphones makes personal action cameras a fun way to explore nature.

Using my GoPro has given me a whole new perspective on wildlife. As my canoe sat overturned on sawhorses in the spring, I set up a GoPro to capture extreme closeups of a phoebe and her nestlings inside it (below). I've used it to peer into tree hollows, finding saw-whet owl chicks and porcupines. I've dipped it into tidepools, getting cool photos of sea anemones and sea stars. And my favorite shots from a GoPro came from a Massachusetts stream in the spring, when river herring were running at their peak. I attached the GoPro to a long, sturdy painter's pole and dipped the camera right into the swimming frenzy, capturing video of one of nature's most amazing sights (top right).



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Watertight personal action cameras can catch underwater activity such as migrating river herring. Strap them in place to watch unfolding action, or carry along to share an adventure.

VIEW FROM ABOVE

Drones provide a dramatic new way to see the landscape and what's on it. Camera-ready drones are widely available from a couple of hundred dollars on up.

Like the other tools mentioned here, drones have been used extensively for conservation and wildlife research. They've proven to be critical for scientists studying penguin colonies in Antarctica, humpback whales, sage grouse, sandhill cranes, musk ox, monk seals, and raptor nests high in trees or on ledges. They've been used in radio-telemetry projects, saving biologists countless hours of legwork. And their use in anti-poaching efforts has helped save elephants, rhinos, and tigers in Africa and Nepal.

While drones can provide amazing aerial photos and video,



they can be a test of ethics when it comes to wildlife. They can be noisy and intrusive for people and animals. Drones can help find large mammals, including deer, moose, and bear, especially when the leaves are down, but they can disrupt or adversely impact those animals and others, depending on how, when, and where they are used.

As with any wildlife-watching efforts and tools, be sure to get permission from landowners and follow state and federal rules and regulations.

With increasing affordability and ease of use, drones can provide breathtaking views and a whole new angle on wildlife watching.

NIGHT VISION

The list of animals that are active at night is long. Bats, beavers, black bears, bobcats, coyotes, flying squirrels, moose, owls, skunks, and white-tailed deer are all on the move when the sun goes down.

Night-vision goggles can open up a world of opportunities to see these species and the ways they interact with their environment. The technology has come a long way in the past 10 or 15 years, thanks in part to innovations for the military. You can spend anywhere from \$300 to several thousand dollars on a night-vision device.

Without getting into a long list of specifics and variables, the basic choices for night-vision devices include:



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- Goggles, a non-magnified monocular with two eyepieces, are head-mounted, allowing you to keep your hands free; the stereo vision allows for better navigation and depth perception.
 - Monoculars are single-eyed, non-magnified devices that have the benefit of being small and lightweight. They can also be head-mounted, and some can be connected to a camera.
 - Binoculars come with two eyepieces and built-in magnification. These aren't generally for head-mounting, but rather for seeing things from a long distance at night or in low light.
- Scopes come in two types: those for mounting on a firearm or those more like a birding scope.

LISTENING DEVICES

Birders aren't the only ones who'll find great utility in devices that amplify and hone in on sounds of the wild. The technology can help you locate animals or enjoy the sounds of howling coyotes, barking squirrels, squeaking bats, and more.

Aside from hearing aids that have long helped hunters and birders, an assortment of amplifiers and parabolic devices can help locate, clarify, and amplify sounds. They can also help discern background

noise—such as wind or rustling leaves—from the sounds of an approaching gobbler or deer.

Some are simply headphones with built-in or connected hand-held amplifiers. Some feature equalizers, which can help define the sounds. Parabolic devices come in a variety of sizes. A 12-inch parabolic can help you hear an animal from 100 yards away. Just aim the device and adjust to help determine the animal's location. A 20-inch parabolic ups the range to 300 yards.



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A TOOL FOR REPORTING YOUR NEW HAMPSHIRE WILDLIFE SIGHTINGS

See an interesting species while you were out and about? A new and easy online tool lets you report your sighting, helping the N.H. Fish and Game Department monitor and conserve wildlife. Whether you're inside on your laptop or in the field with a mobile device, you can enter observations at New Hampshire Wildlife Sightings, plus see maps showing where species have been reported. Following an intensive quality control and review process, this data will be used by Fish and Game to assess the status of wildlife and evaluate appropriate conservation strategies.

To get started, visit <http://nhwildlifesightings.unh.edu>

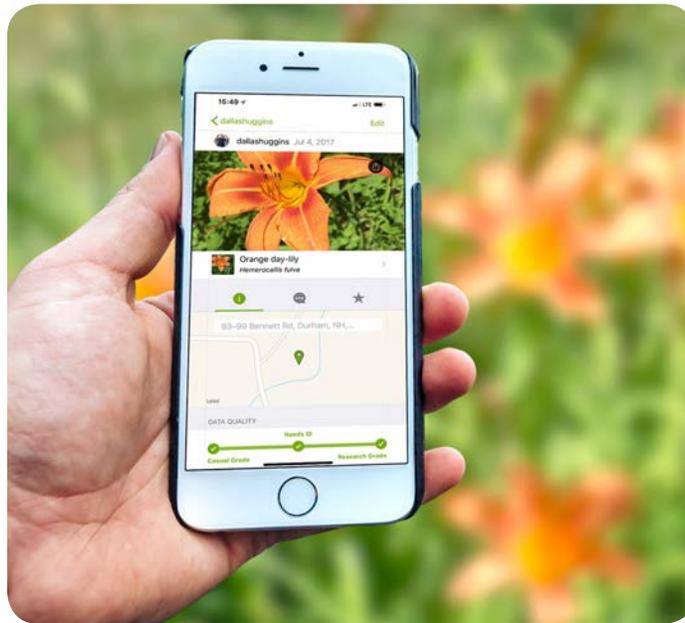
For the mobile version, visit <http://nhwildlifesightings.unh.edu/mobile>



SMARTPHONE APPS

Smartphones are revolutionizing the opportunities for lovers of wildlife and the great outdoors. They'll help you identify a track, a bird call, a wildflower, or whatever you may encounter. You can record the place where you found it and share it with experts or friends, privately or on social media. There are apps for bats, bees, bugs, deer, mushrooms, tracks, trees, leaves, forests, wildflowers, and everything in between.

A must-have, whether you fish, hunt, hike, or simply enjoy New Hampshire's great outdoors and wildlife, is the NH Fish & Wildlife Pocket Ranger®. Produced by the New Hampshire Fish and Game



The iNaturalist app allows you to track your observations, crowd-source identification of plants and animals – even lichens and insects – and contribute data that can be used by scientists and resource managers.



Department in partnership with ParksByNature Network, the app provides all sorts of information on wildlife, hunting, fishing, boating, and wildlife watching in New Hampshire. Aside from providing news, advisories, and weather alerts, the app offers cacheable map tiles for offline use. You can record trail distance, mark waypoints, and track wildlife sightings.

If you haven't downloaded the New Hampshire Fish & Wildlife Pocket Ranger® app, give it a try. It's packed with information in an easy-to-use interface.

For identifying bird songs and calls, apps like Larkwire can help you learn distinguishing characteristics. Then there are apps like Song Sleuth that instantly show you the most likely bird that you heard. With both the learning and identifying variety, there are dozens of apps you can choose from – some free, some nominally priced.

One popular and handy app is iNaturalist, which allows you to identify and keep track of what you saw when and where, whether it's a track, an animal sighting, or a plant.

"It's a one-stop-shop for naturalists," says Dallas Huggins, a student and naturalist from Newmarket. "The app allows you to collaborate with other naturalists in identifying species, offers photo recognition, and allows you to create projects that are helpful in organizing data, creating reports, and bringing new naturalists to help gather data while also allowing experts to check the work."

A QUESTION OF ETHICS

A few of these high-tech tools raise ethical questions about watching wildlife, according to Judith Silverberg, author of the *New Hampshire Wildlife Viewing Guide* and former longtime educator for the New Hampshire Fish and Game Department.

As a rule of thumb, Silverberg says, ask yourself whether your use of this gadget changes the animal's behavior. Is the device an innocuous way of discovering the ways and habits of wildlife, or does it disrupt the animal's routine?

The use of high-tech gear for hunting may pose similar questions, according to Colonel Kevin Jordan, Chief of Fish and Game's Law Enforcement Division. Does the device fit within the standards of fair chase and other ethical considerations? Does it give hunters an unfair advantage? In some cases the answer is

"yes," so be sure to check New Hampshire's hunting regulations.

Whatever gadget or tool you use, don't forget the basics – not only of ethical wildlife watching, but also about the simple pleasures of enjoying nature. At some point, you'll want to put away the phone, put away the gadget, the camera, or whatever you have. Then it's just you and the outdoors. You and the tracks. You and the elements. You and the memories. As humans, that's how we've learned the ways of the wild since the beginning, and that's what resonates the most.

Eric Aldrich of Hancock is a former editor of New Hampshire Wildlife Journal.

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