

A Few Important Questions

FWP winter phone surveys are the best way to determine game animal harvest, hunter effort, and other essential information biologists use to manage Montana's wildlife populations.

By Tom Dickson

I've just finished dinner on a mid-January evening when the phone rings. "Hi, this is Lois with Montana Fish, Wildlife & Parks," says a voice at the other end. "We're doing our annual game harvest survey. Could I ask you a few important questions about your hunting season?"

I've received a similar call from a polite and efficient FWP phone surveyor most years I've lived in Montana. It's always fun to recall my different hunts and talk about the game I did and didn't bag. What's more, I like knowing that the few minutes I spend on the phone helps FWP manage wildlife.

But I never understood how it helped. What's more, I've wondered if those tens of thousands of phone calls made each winter to me and other hunters are really necessary. Wouldn't it be easier—and much cheaper—for us to self-report our success on-line, as is done in several other western states?

100,000 CONVERSATIONS

On a cold February evening in downtown Helena, I visit the office building where FWP has established one of two phone banks (the other is in Bozeman). Kevin Tucker, in his first season as a phone surveyor, is asking a hunter about her deer season. He wants to know if and where she hunted, if she killed any deer, and which tags she used for each one. From their cubicles in the small office, another half-dozen surveyors are likewise conversing with Montana hunters and nonresident hunters from across the country. Each winter, from early December through mid-April, roughly 50 temporary, part-time phone surveyors call approximately 250,000 hunters and eventually reach and interview 100,000, about 60 percent of the hunters who purchase licenses.

Justin Gude, head of FWP wildlife research, says the

FOUND IT In the Bozeman center, phone surveyor John Canfield locates the hunting district where a hunter shot an elk during the 2008 season.

ERIK PETERSEN



MAPPING IT OUT Ashlee Peery, left, calls a hunter's phone number randomly selected by computer. Rob Lueck, above, listens to a hunter tell about an unsuccessful moose hunt the previous fall. One phone surveyor who works at the FWP phone bank in Helena says, "Most hunters seem to like having someone ask them about their hunts."

surveys are structured to gather information about the hundreds of different licenses and permits offered by FWP. "For instance, the 291-00 is the antlerless mule deer archery-only license for a hunting district in the Garnet Range west of Missoula," he says. "We issue 200 of those licenses, so we calculate how many hunters we'll need to contact to gather enough information to accurately assess hunter effort and harvest."

A computer picks ALS (Automated Licensing System) numbers of hunters to be called for each particular license. The selections are random. As a result, some hunters don't receive a call for several years, while others are called nearly every winter. And some hunters get asked about only one license they purchased, while others are asked about most or all licenses.

When surveys are finished at winter's end, FWP has an accurate picture of how many game animals were killed in each hunting district (or county, for upland game birds and wild turkeys) and the hunter "effort" (days required to harvest those animals). Phone surveys gather information on hunting seasons for all game animals as well as mountain lion and wolf sightings. (The exception is waterfowl and other migratory bird harvest information, which is collected by the

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U.S. Fish & Wildlife Service when hunters purchase their licenses.)

Gude says biologists need the information—along with data from check stations and the aerial and other population surveys FWP conducts—to determine the following season's big game harvest "quotas" (see sidebar, page 35). The information has other uses. Interviewers ask hunters for the number of points on the antlers of harvested bull elk and mule deer bucks, and FWP posts

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the results on-line so hunters can locate hunting districts producing the biggest trophies. Information on how many days hunters spend to kill elk and other game animals in each hunting district may indicate whether wildlife populations there are declining (more days required to kill an animal) or increasing (fewer days required). Rob Brooks, FWP economist, says the

department also uses hunter effort information to estimate the economic value of hunting throughout Montana. The information is shared with communities interested in the value of hunting to their local economies. "For instance, we know from other survey work that nonresident hunters spend an average of \$175 a day on mule deer hunting," Brooks says. "If we learn from the winter phone surveys that hunting districts around Broadus are seeing about 2,200 nonresident hunter days each season, we could say the economic value of mule deer hunting to that area is around \$385,000 annually."

MILLIONS OF ROWS OF DATA

With so many hunters, hunting districts, and hunting licenses, gathering harvest information each season is difficult. Each year FWP's computer software development team sets up a website that phone surveyors use to find out which specific licenses they need to ask each hunter about. A biometrician produces computer code to select the random name sampling for each license and to analyze the data. "The code for analyzing deer surveys alone is 200 pages long," says Robin Russell, FWP wildlife biometrician in Bozeman.

Phone surveyors type the information they gather into a central database, where it can be immediately accessed for analysis. "At

the end of the surveys we have thousands of rows of data to sort and analyze," Russell says. Analysis is completed by May and provided to wildlife biologists across the state, who have begun preparing harvest quotas for the following season.

Wouldn't the process be easier and faster if FWP called fewer hunters? Political pollsters, for example, contact less than 5 percent of a population. "If we only wanted an estimate of, say, the statewide elk harvest, then we could get by with sampling only 5 percent of all elk hunters," Gude says. "But we need data from hundreds of hunting districts. The only way to get that is to contact thousands and thousands of hunters."

The survey used to be even more difficult. Only a few years ago, surveyors worked from home, entering data by hand on forms, which were later re-keyed into computers for analysis. "It took most of a year to analyze the information," says Ken McDonald, chief of

FWP Wildlife. "Now with the phone centers and a centralized database, it's completed within just a month after the calling ends."

But technology has also made the survey more challenging. Tucker, the rookie surveyor, says he has called 10,019 hunters so far this winter and reached only 3,654—an average response rate. "Some people aren't home, some have disconnected their service, and some just don't pick up," he says. Keri Wash, phone survey coordinator for FWP, says caller ID has made it harder to reach hunters. "A lot of times people won't pick up if it's not a friend or family member," she says. "But we always leave a message that it's Montana Fish, Wildlife & Parks calling, so if people just listen in as we are leaving the message, they can hear it's us and pick up. That happens a lot."

THE BEST METHOD?

Many western states don't believe interviewing hunters by phone is the best way to

gather harvest information. Washington, Idaho, Oregon, Nevada, and New Mexico require license buyers to report on-line or by phone whether they hunted, where and what they hunted, and if they killed any game animals. The idea behind "mandatory reporting" is that it's cheaper and gathers data from more hunters.

But it doesn't quite work that way, says Gude, because many hunters don't comply. After evaluating other states' hunter harvest survey methods, he found that compliance ranged from 85 percent in Washington to only 10 percent in Oregon. Some states actually have to fine hunters who don't comply. And even then they still don't get full participation. "Many hunters don't like mandatory reporting, and it's economically and socially expensive to enforce compliance," says Gude. "These states have had to establish 24-hour reporting websites or call-in centers, set up grace periods for hunters who are late but still

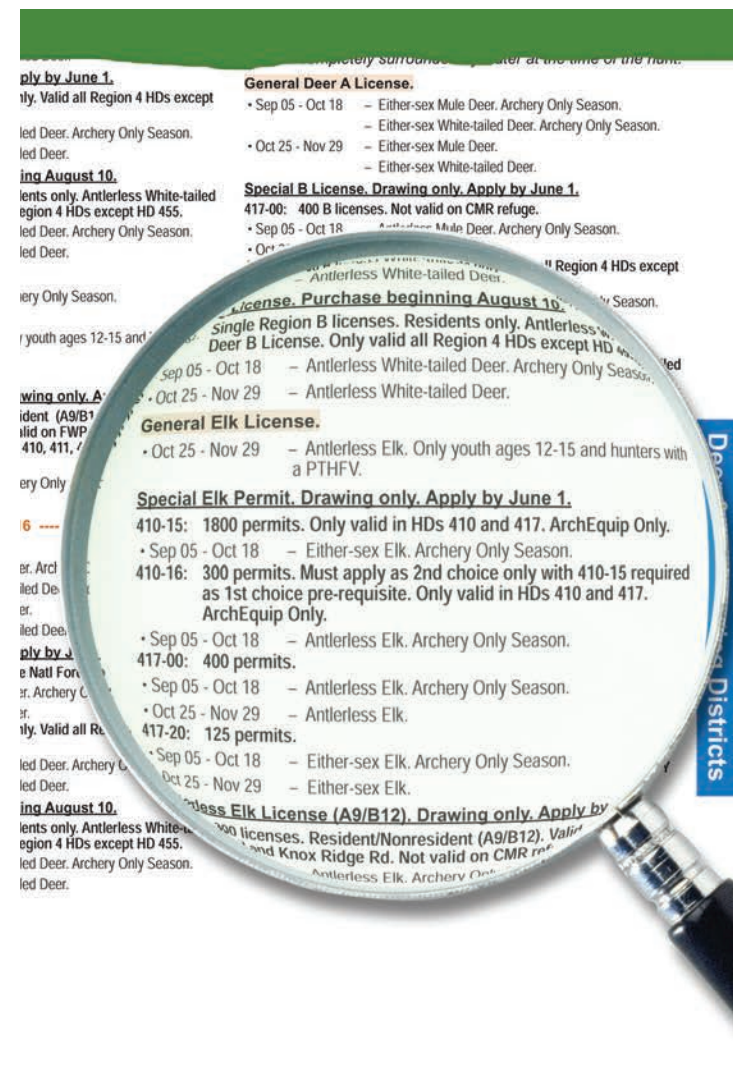
QUOTAS ARE KEY TO MANAGING MONTANA'S WILDLIFE POPULATIONS

The primary use of hunter phone surveys is to gather information that biologists use to determine harvest quotas for each hunting season. A quota is the number of animals that wildlife managers determine should be harvested in a particular hunting district to increase, decrease, or maintain the size of an elk, deer, or other big game animal population.

FWP manages most big game primarily by adjusting the number of female (antlerless) animals killed by hunters each season to arrive at a previously determined population "objective." The objective is a number that factors in hunter demands for recreation, landowner concerns about depredation, and the land's capacity to support the animals. If a population is "below objective," biologists lower antlerless quotas, thus protecting more females to produce young and increase numbers. If a population is "above objective," biologists raise quotas so hunters will remove enough reproducing animals to lower numbers.

The number of permits FWP provides for a special license in a hunting district is based on the quotas wildlife managers aim to reach.

If wildlife managers know how many big game animals hunters harvested the previous year, and the current population and recruitment, they can accurately estimate what the upcoming season's harvest should be. The less information they get, however, the greater the chance they might not allow as much antlerless hunting as a population could provide. Or they might allow too much harvest, which then would knock the population down too low. The more abundant and immediate the information, the better biologists are able to meet the needs of hunters, landowners, and huntable wildlife populations.





DON'T FORGET After the season, be sure to remember where and for how long you hunted.

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PREPARE FOR THE CALL

If you hunt in Montana, odds are you'll get a call from an FWP phone surveyor this winter. Keri Wash, who coordinates the surveys, says you can ensure that surveyors receive the best information possible to help Montana's wildlife management if, beforehand, you:

1. Keep track of the different hunting districts where you hunt. (You should always know these district numbers anyway to be certain you are hunting during the correct seasons with the right licenses.)
2. Keep track of how many days you hunt. The information is essential for determining hunting pressure.
3. If screening calls, consider listening to the message as it's being recorded. "We always leave a message that it's Montana FWP calling, so if people just listen in as we're leaving the message, they can hear it's us and pick up," says Wash.

report, establish a collection process for late fees, and track whether hunters have complied and if they've paid their late fees. It's complicated and expensive."

Most hunters who report are those who successfully filled their tag during the year.

“ That will be weird, for sure, but it will be fun to be the hunter talking about my season for a change.”

That skews the results, says Gude, requiring follow-up calls to hunters who don't report. "Getting a portion of harvest information using mandatory reporting is what's known as an 'opportunity sample,'" he says. "In statistics, opportunity samples only gather data

that are most easily available—in this case, information from hunters who obey the mandatory requirement or want to report their success." Gude explains that the failure of opportunity sampling was proved as early as the 1930s, when it was tried for population censuses. "If you only count the people who come to the door when you knock at noon, for example, you're skewing the results toward people who are home during the day," he says.

Gude notes that even with penalties, compliance of mandatory reporting is never 100 percent, which means some percentage of those not reporting still must be called and interviewed. That's because there is no statistically valid way to extrapolate harvest estimates from the sample of hunters who com-

ply to those who don't. In Idaho, for instance, compliance is only 60 to 65 percent, despite incentives and penalties tried in recent years. As a result, Idaho Game and Fish must call 40,000 of the hunters who don't report and conduct phone interviews. "They told us they spend \$200,000 each year on their mandatory system before they even do the follow-up survey," says Gude. "That's 60 percent more than we spend, and they sell about half the number of licenses and permits we do."

Montana's system relies on "random sampling" similar to how the Gallup Poll and the U.S. Census are conducted. McDonald says FWP's method of surveying hunters is working well. Department staff constantly refine survey methods with statistics experts at Montana State University and the U.S. Geological Survey. And they regularly test possible improvements that could save money or time. "One thing we're considering for the future is to e-mail some hunters and ask them to complete the survey online," McDonald says.

Back at the Helena phone bank, the surveyors are making their final calls of the night. Donna Torgerson finishes interviewing a married couple from Wisconsin who hunted mule deer near Roundup and killed two bucks, both 3x3s. Torgerson, who does not hunt but wants to start next season, tells me one reason she applied for the job was to learn about Montana hunting and hunting regulations. "Talking to all these hunters really gets me excited. Next year I want to find out for myself what it's like," she says.

And then, of course, she might end up on the other end of the line, talking to one of her fellow phone surveyors. "That will be weird, for sure," she says, "but it will be fun to be the hunter talking about *my* season for a change." 🐾

SURVEY DATA ON-LINE

FWP publishes much of its winter phone survey results on-line, including drawing statistics, annual harvest reports, hunter success, and response rates. Find survey reports as spreadsheets and pdfs at fwp.mt.gov/hunting/planahunt.