



HOW TO WIN THE BIG GAME LOTTERY

By Joe Nickell

Making sense of Montana's complex limited-license drawing system

WARNING:

This article is intended mainly for big game hunters who have tried but never drawn an FWP limited permit or license. Reader discretion advised.



The Sun River Wildlife Management Area elk permit. The East Fork Bitterroot mule deer buck permit. Every bighorn ram, mountain goat, or moose permit. Often referred to as “lifetime tags,” these extremely limited, highly coveted licenses and permits are the toughest draws in Montana hunting. The odds of being drawn for many of the lotteries held each spring by Montana Fish, Wildlife & Parks are greater than 100 to 1, or less than a 1 percent chance. In a few hunting districts, more than 1,000 hunters may put in for a single permit—odds that make a Las Vegas roulette table look like a sure thing.

A hunter's chances are slightly better to draw the West Garnet moose permit, though still only about 2 percent. Back in 2000, after only a few years of trying, Carl Williams

of Missoula drew that tag, which covers a sizable section of mountainous country bounded by Missoula, Ovando, Helmville, and Drummond. His good fortune didn't end there. “On opening day my son and I were driving down a forest road and we saw a large bull about 50 yards in the forest,” says Williams. “We stopped, I got out and snuck closer, and made the shot. We were able to load him into the back of my brother's pickup truck—whole.”

The moose gods continued to smile down. In 2007, after the seven-year wait to reapply, required by FWP for anyone who draws a moose permit, Williams again put in for the West Garnet tag. Beating astronomical odds, he again was drawn in the random computerized lottery. “I'm not much of a believer in luck,” Williams says, “but it was

quite the shock to see that permit show up in the mail again.”

If you hunt in Montana long enough, you’ll eventually hear about someone like Williams who drew two (or more) of the state’s most coveted permits. Some hunters have been selected from the various lotteries for a bighorn ram permit (technically an “either-sex” permit) one year, then a prized Elkhorn either-sex permit (hunting district 380, south of Helena) the next. Others have won mountain goat, moose, and trophy mule deer tags all in the same year.

What’s going on here? Are some people just lucky, or is there something broken about the FWP permit and license lottery system? As a big game hunter who has been trying to draw a moose tag for the past 20 years with no success, I set out to learn just how this puzzling process works.

HEADS 15 TIMES IN A ROW

I started by gaining a better understanding of probability, which concerns the likelihood of getting drawn for a permit. “Most people have a really hard time getting their heads around the different ways probability works,” says Paul Lukacs, associate dean of graduate research at the University of Montana College of Forestry and cofounder of Speedgoat Wildlife Solutions, a consulting and software company. Lukacs has spent his career studying and teaching the application

of statistics in wildlife management.

He points to the most basic probability problem: a coin flip. For each flip, there’s a 1:1 chance of a coin landing heads or tails up. “But if you flip the coin a bunch of times in a row, you’re going to eventually get pockets of seemingly unlikely results,” Lukacs says.

For instance, in a series of 1,000 coin flips, heads could come up 10 or even 15 times in a row. If you watched only those particular flips, you’d likely suspect something weird was going on—like the head side was weighted more than the tails side—“but in fact that’s just part of normal probability,” says Lukacs. “The thing is, you wouldn’t recognize that unless you watched all 1,000 flips.”

Similarly, hunters can’t see the big picture of hunting permit drawings and instead focus only on the oddities—the drawing equivalent of 15 heads in a row—such as when one hunter scores multiple hard-to-win permits while others go decades without ever getting a coveted tag in the mailbox.

FACTORS INFLUENCING YOUR ODDS

To understand what’s really going on, hunters need to consider a number of factors that influence the likelihood of drawing a desired tag. FWP publishes the drawing statistics from each previous year in the annual hunting regulations booklets. But those odds tell only a small part of the story.

For instance, the changing number of hunters applying for a particular license or permit in a particular year can shift the odds significantly. Take the North Clark Fork bighorn sheep permit, for example. In 2020, 1,234 people applied for that coveted tag. In 2021, the number dropped to 463 applicants for the same number of permits. That meant the odds of getting drawn nearly tripled in one year.

Changes in harvest quotas also can dramatically alter a hunter’s chances from year to year. A harvest quota is the maximum number of sheep, mountain goats, moose, or other big game animals that FWP determines can be harvested each year by hunters in a given hunting district. When quotas are already small—for example, in most moose, bighorn sheep, and mountain goat hunting



districts they can be less than five animals—a decrease or increase of a single animal from the quota can lower or raise your odds of drawing that permit by as much as 50 percent.

Then there’s the influence of bonus points, which FWP began offering in 2001 as a one-point-per-year add-on purchase for moose, sheep, and goat drawings, and in 2003 for elk and deer permits and B (antlerless) licenses. When consistently purchased and used correctly, bonus points are the most powerful tool hunters have under their control. But they’re often misunderstood.

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The biggest misconception is that bonus points move you up the preference ladder. But there is no preference ladder. What bonus points actually do is give hunters additional entries in their chosen drawing, like having more tickets in a cash lottery. Those additional entries rapidly increase as a hunter

accumulates points year after year. That’s because each point provides an additional number of entries equal to your number of bonus points times your number of bonus points (in other words, your number of bonus points squared). Thus, a hunter who has purchased five bonus points will receive 26 entries in a single drawing: $(5 \times 5) + 1$. A hunter with the maximum of 21 moose, sheep, or goat bonus points allowed in 2022 will get 442 entries.

“The Bonus Point System was put in place to help reward people who continue to apply year after year, rather than leaving everything up to chance for every hunter,” explains Neal Whitney, who recently retired from his job in the FWP License Bureau of managing the department’s limited-tag drawings. “It doesn’t make everyone happy, but if you look at the statistics each season like I have, the Bonus Point System does what it was intended to do by spreading those limited draw tags out to more people over time.”

Whitney notes that in drawings where the success rate published in the regulations is already relatively high—for example, most pronghorn (antelope) either-sex license drawings and many elk B (antlerless) license drawings, where the overall success rate tends to be in the double digits—even just a few bonus points applied to the drawing can eventually guarantee success.

“For instance, if you’re looking at a place with a 20 percent drawing success rate, usually everyone putting in will be drawn after putting in for four or five years—at least those who are buying and using bonus points,” Whitney says.

Bonus points can also increase your chances in low-odds drawings—but with some important caveats. First, keep in mind that when chances of drawing a particular tag are less than 1 percent, even tripling your odds with bonus points will only result in a small overall chance of success.

Moreover, in the most coveted drawings there’s a good chance that you’ll be competing with hunters who have more bonus points than you. Known colloquially as “point creep,” this phenomenon generally means there will never be a number of bonus points a hunter can earn that guarantees success in those drawings.

For example, in 2021, 80 resident hunters who each had 18 bonus points—the maximum number of deer bonus points that a hunter can own—put in for the East Fork Bitterroot mule deer buck permit. Four drew permits, meaning one out of every 20 of

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those hunters got to hunt Montana’s most coveted deer unit. That still might sound like long odds until you consider that 1,334 residents with no bonus points put in for that same tag in 2021. Only one drew it.

One in 1,334 versus one in 20. It’s pretty clear which is preferable. Even so, 76 of the hunters with 18 bonus points didn’t get drawn last year. They likely wonder what’s up with that. “I often hear people say these points aren’t increasing their odds,” Whitney says. “Well, statistically we can show that they are increasing the odds significantly—but for the most desired tags,

Tips for improving your odds

▶ Always buy bonus points (even in years when you know you won’t hunt). “That’s the simplest advice for anyone who wants to draw a limited tag,” says Dave Barnett of the goHunt online hunting publication. “It’s really the only thing you can control when it comes to the odds if you’re after a specific tag.” Hunters who did not apply for a license or permit in the current year can still buy a bonus point for that license or permit July 1 to September 30.

▶ Consider applying for special tags that are in relatively lower demand, such as cow elk or cow moose permits. That’s how FWP’s Neal Whitney has managed to spend two seasons chasing moose: He applies for an antlerless permit with the highest average odds in Montana.

▶ Don’t just look at last year’s statistics. According to Whitney, “the number of applications for a particular permit tends to swing back and forth dramatically from year to year because people say, ‘Oh, too many people are applying in that district, so I’ll avoid it,’ and then everybody moves to a different district and the same thing happens again.” Hunters can get a better sense of these shifts by comparing prior-year application data at myfwp.mt.gov/fwpub/drawingStatistics.

▶ Be patient and enjoy the opportunities along the way. “I think nonresidents in particular fail to realize the sheer amount of great hunting that’s available on the general tags in Montana,” says Barnett. “You’ve got about 80 percent of the state open to general-tag hunting over a long hunting season. So a special permit is a great bonus if you can get it, but even if you don’t, you can still have some great hunting across the whole state.”



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Common misconceptions... ...about Montana's permit and license lottery system

the result is still very low odds. So that's the kicker with the difficult licenses."

It's also worth noting that these are random-selection lotteries, which means that occasionally a first-timer will get drawn while hunters who have put in for years and earned dozens of bonus points won't.

It's like when someone buys 500,000 Mega Millions lottery tickets. That person's odds of winning are much greater than those of people who buy far fewer tickets. But that still doesn't guarantee a winning number, and occasionally some lucky soul with just one ticket scores big.

NO GUARANTEE

Nonresident hunters have additional factors to consider. Most important is the state law granting only 10 percent of limited-availability tags to nonresidents. In districts with harvest quotas of nine or fewer wild sheep or other species, that means zero tags go to out-of-state hunters.

Also, in order to even qualify for a deer or elk limited-permit drawing, nonresidents must first possess a lottery-awarded Nonresident General Combination License. Since 2011, those have been sold through a preference point system that works differently from bonus points: Nonresident hunters with the highest number of accumulated preference points—which they can buy each summer (one per year, or two if hunting with an outfitter) for \$100 each—automatically receive the Combination License, with the remainder distributed (via a random drawing when necessary) to applicants with the next-most preference points.

Though nonresident hunters can generally count on receiving a General Combination License every one to two years, it's not guaranteed for applicants with no preference points. And, of course, getting a combo license is no guarantee of then drawing a limited-availability permit.

ODDS GETTING TOUGHER EACH YEAR

Hunting is a pursuit of unlikely results. Those results become the stories we keep and share—whether about the person who drew multiple lifetime tags, or about the giant bull elk that stepped out of dark timber and into our crosshairs on the last day of the season.

For those who hope to draw a lifetime tag, it's probably a good idea to settle in for a wait. Because the reality is, those tags are only getting harder to obtain—for everyone.

"Over the last two years especially, every western state has seen an insane influx of applications," says Dave Barnett, research manager for goHunt Insider, an online hunting publication and community. Each year, Barnett reviews regulations and analyzes data on every single big game permit draw-

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ing in 13 western states. By running a million simulated drawings in each state based on updated permit allocations, past numbers of applicants, and bonus and preference points, he's able to publish tables of probabilities aimed at helping subscribers understand drawing odds and strategize where and what to apply for, based on how many preference points, bonus points, or both they have accumulated.

"Whether it's because of COVID or whatever, you're seeing more hunting pressure and more applicants for limited-entry permits," Barnett says.

FWP drawing statistics bear that out. "With the growing number of applications we

see each year, it is getting harder to get special tags—even for people with the maximum number of bonus points," Whitney says.

He should know. The license lottery guru has put in for mountain goat and bighorn ram permits for more than 20 years with no success. "A lot of us at FWP definitely know what it's like not to get drawn," he says.

Whitney and others familiar with the department's drawing lotteries also know that, for many of the most coveted tags, most hunters who apply will never get drawn—even if they apply their entire life. "In HD447 (Highwood Mountains) for instance, we had 1,348 hunters apply for a single mountain goat license in 2020. We had 7,089 hunters put in for just 25 sheep tags in HD680 (Missouri River Breaks)," says Whitney. "Those are long odds no matter how many years you put in."

HIGHER THAN ZERO

Another factor in all this is that Montana simply doesn't have enough moose, bighorn sheep, or mountain goats to go around. To protect populations, each year FWP biologists recommend that hunters harvest, statewide, only about 300 moose, 250 bighorn sheep, and 200 mountain goats. Compare that to the 25,000 elk and 100,000 deer that are harvested. "The demand far exceeds supply," Whitney says.

As for Carl Williams, the charmed hunter who drew those two moose tags, his second hunt didn't have a fairytale ending. During the 2007 season, Williams hunted hard, yet "I never saw a single moose," he says.

After another seven-year waiting period, the Missoula hunter resumed applying for a moose tag. He hasn't drawn one since. Certainly the odds of pulling a third tag are astronomically low—but hey, they're higher than zero.

And as every hunter knows, success only comes to those willing to get out there and give it a try. 🐾

"Each bonus point only gives me one additional entry in a drawing."

Your total number of bonus points is squared to determine additional entries. Granted, this misconception is true when you have just one bonus point, because $1 \times 1 = 1$. But two bonus points increase your number of entries by four; three bonus points by nine, and so on.

"If I stop buying bonus points or applying for permits, the points I've already bought will expire."

Until 2017 this was true. But now, bonus points never expire. *Nonresidents* should be aware, however, that *preference* points for combination licenses are lost after one year of not applying for a license. But don't worry—even if this happens, you still keep your accumulated *bonus* points.

"Point creep' means that I will never have a chance to draw a lifetime tag."

In some other western states that give first dibs to those with the most bonus points, it's true that most hunters will never accumulate enough points to even be entered into drawings for certain tags. But in Montana, applicants with zero or few bonus points still get at least one entry in every drawing they enter. And each year, some of those people find unexpected success. For example, in 2021, a hunter with one bonus point pulled one of the Hi-Line district moose permits, beating out 1,260 unsuccessful applicants—including all nine of the people who entered the drawing with 20 bonus points. Things like that don't happen often, but they do happen.

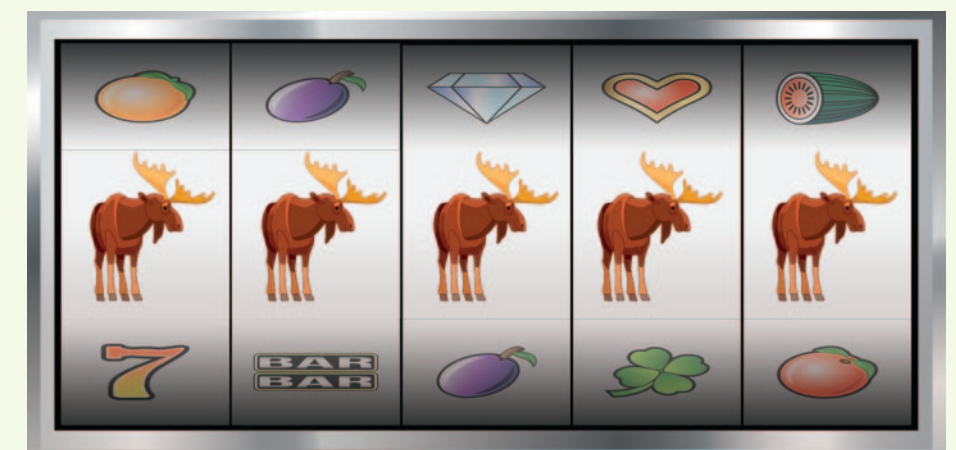
"Applying as a party increases the odds of a successful draw."

That's true if you're the person in your party with the lowest number of bonus points. The reason is because the total number of bonus points among all party members is averaged, and that average—not the total—

is squared to determine the number of entries your party will earn in a drawing. But it also means that the person with the most bonus points in your party will likely see decreased odds in the draw. There's an additional handicap that parties face: If your party of five is drawn 26th in a district with a quota of 30 animals, there won't be enough permits left to satisfy your whole party—in which case, none of you will get the permit.

(including one for every bonus point entry) and the drawing system uses those numbers. Additional checks ensure fairness and lack of bias, including periodic audits by the state's Legislative Audit Service. The system consistently passes those tests.

That said, the drawing system actually isn't entirely random, by design: As noted above, it's weighted to favor people with the most bonus points. Bonus points actually help reduce the likelihood of the same



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"The fact that somebody can get two 'lifetime' permits proves that someone is picking favorites."

The design of the drawing system would take too much ink to explain in detail, but suffice to say that no person's individual information—not their name, ALS number, address, or anything else—is used or even accessible as part of the actual drawing process. Instead, each applicant is assigned random numbers for each of their entries

person getting a super-rare permit more than once—because that person has to start over with zero bonus points after a successful draw and will then be competing with applicants with many more entries in the drawing. But even in such a system, when you have more than 323,000 special license applications across 10 different tag types, as was the case in 2021, there are bound to be a few people who luck out and beat even astronomical odds. ■