

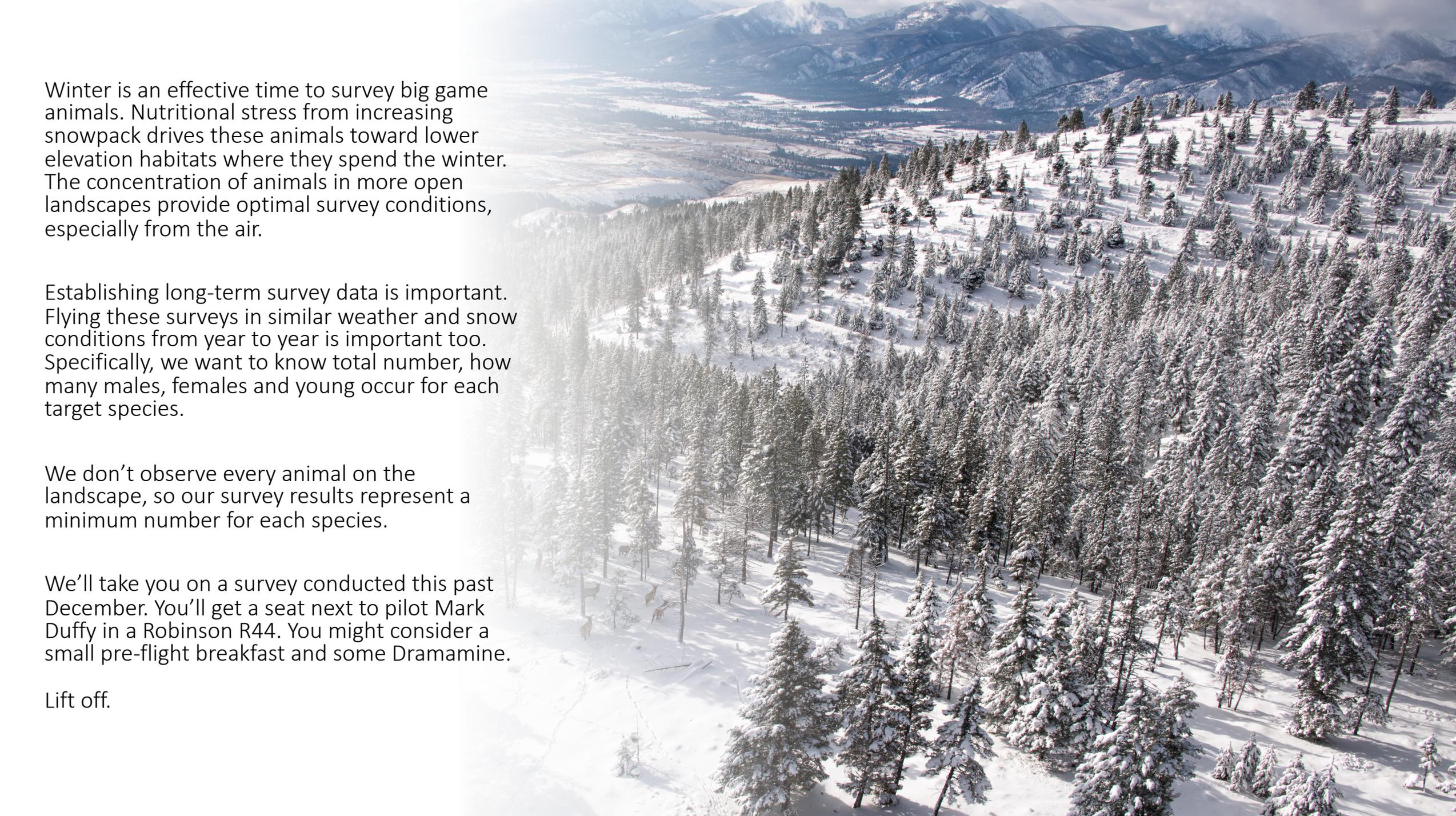
2021 MPG Ranch Big Game Survey – Craig Jourdonnais

MPG Ranch biologists conduct annual big game surveys using a helicopter. We contract with an exceptional mountain pilot.

Aerial surveys provide observers an enhanced view of the landscape, cover a large area within a reasonable timeframe, and eliminate a weak link with ground surveys of double counting animals that move long distances daily.

Surveying big game in mountainous terrain requires low level flying with frequent tight turns and abrupt changes in direction. These flights 'light up' anyone prone to air sickness.



An aerial photograph of a vast, snow-covered mountain range. The foreground and middle ground are dominated by dense evergreen forests, their branches heavily laden with snow. The terrain is a mix of rolling hills and deep valleys. In the distance, a wide valley opens up, showing a mix of open fields and smaller clusters of trees. The sky is a pale, hazy blue, suggesting a clear but slightly overcast day. The overall scene is serene and majestic, capturing the beauty of a winter wilderness.

Winter is an effective time to survey big game animals. Nutritional stress from increasing snowpack drives these animals toward lower elevation habitats where they spend the winter. The concentration of animals in more open landscapes provide optimal survey conditions, especially from the air.

Establishing long-term survey data is important. Flying these surveys in similar weather and snow conditions from year to year is important too. Specifically, we want to know total number, how many males, females and young occur for each target species.

We don't observe every animal on the landscape, so our survey results represent a minimum number for each species.

We'll take you on a survey conducted this past December. You'll get a seat next to pilot Mark Duffy in a Robinson R44. You might consider a small pre-flight breakfast and some Dramamine.

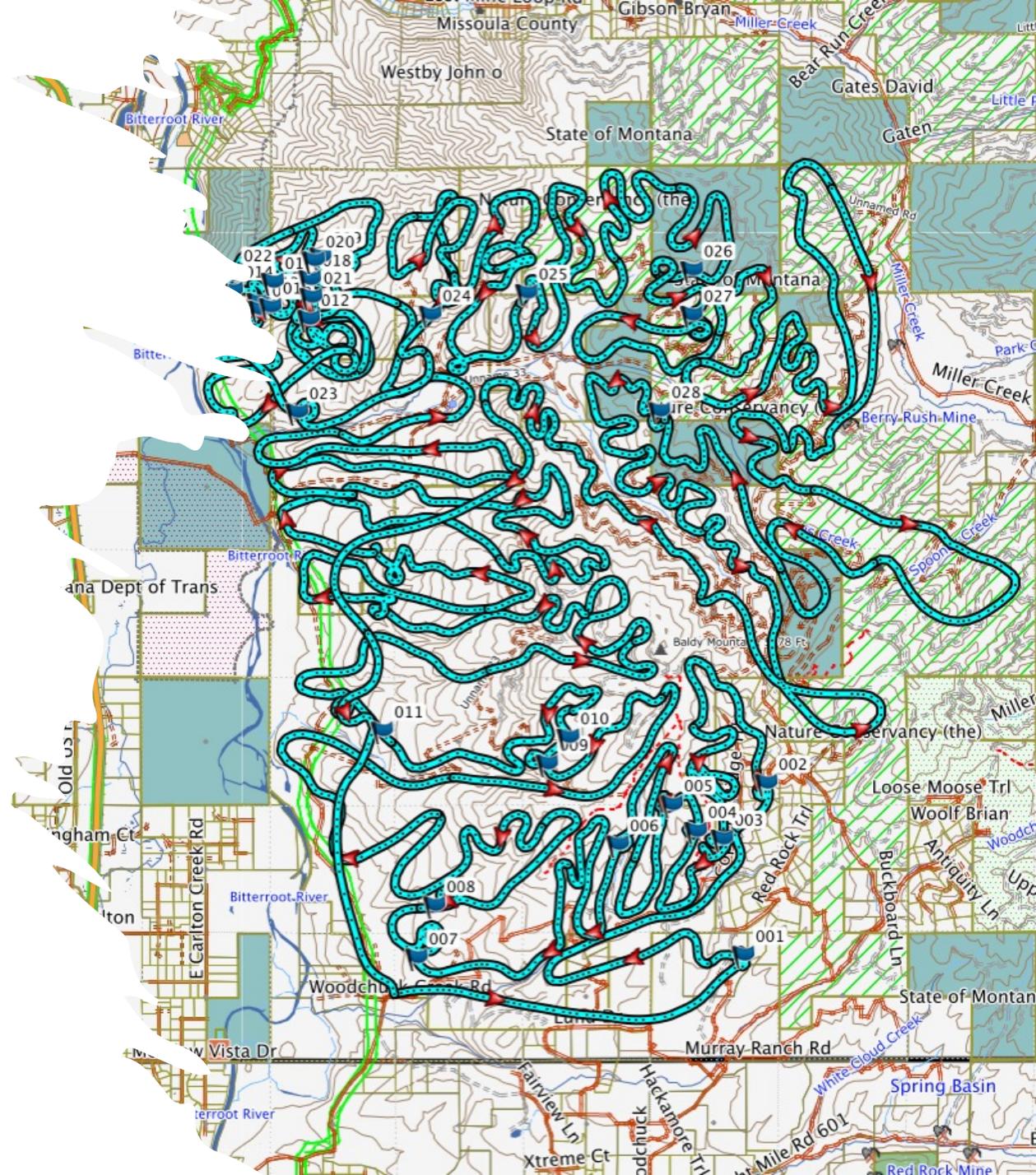
Lift off.

We'll record our survey route with a handheld GPS unit. We'll use the unit to mark a waypoint for each individual or group of animals we observe.

We are searching for mule deer, white-tailed deer, elk, moose and horses. We also record predators like lions and coyotes. We look for eagles too.

We use a systematic approach to covering the terrain. Pilots experienced with conducting surveys are a tremendous asset.

GPS track and waypoint data from a survey flown in December 2019 looks like this:



We begin the survey in early morning and fly the backcountry portion of the ranch first. This area of the ranch is timbered. Its remoteness and cover is why mature bull elk and moose chose to spend the winter here.

We'll try to dig them out of their haunts.

We want to take advantage of their behavior of foraging in open meadows and parks during the early morning. By mid-morning, most bulls drift into the timber and bed down. It's much more difficult to observe them in the timber.

Our first observation is a group of 5 younger adult bull elk (probably 2.5-5.5 years old) feeding along an open ridgeline.

An inspiring sight.





A few minutes later we observe some movement in the timber. The pilot makes a sharp banking turn and gets us right on top of 3 bull moose. We hit the waypoint button on our GPS and record the waypoint number and 3 bull moose on our data sheet. Notice the challenge of finding something as big as a moose in the timber. Snow cover enhances our ability to pick out animals in the timber.

Toward the upper portion of Davis Creek, one of the major drainages on MPG Ranch, we observe a group of 7 horses. These horses roam free on MPG and adjoining ranches. Genetically, they share a convoluted history.

Surveying all these animals, along with forage plant measurements, helps us estimate grazing pressure on forage plants.

We use these data in crafting management decisions regarding the number and distribution of grazing animals on MPG Ranch.



Two hours into the survey we've finished surveying the higher elevations. The pilot needs to head to the fuel truck.

As we exit the backcountry portion of the ranch, we find a lone bull heading into the timber. As we swoop down for a closer look, we discover numerous other bull elk in the timber. Time to go to work!

Hunting seasons have a significant impact on the number of bull elk and buck deer in an area. MPG Ranch manages hunting to ensure ample populations of older age class bulls and bucks survive on MPG Ranch.



Sporting a full tank of fuel, we begin surveying the lower elevations of the ranch, from the Bitterroot River bottom to Baldy Mountain. Large groups of cow and calf elk winter on these open foothill grasslands. We begin to observe groups of mule deer and white-tailed deer too



We don't observe moose in large groups, usually 1-3 animals.

Both deer species form groups or herds but rarely do we observe herds over 20 individuals this time of year.

Cow, calf and young bull elk are highly social animals. They usually winter in large herds. Some of these 'cow/calf' groups number 300-400 animals.

One technique for counting these large groups is to take digital photos of them. Later, we'll project the photos onto a large whiteboard and calculate a total number. Then, we'll zoom in and begin picking out cows, calves and bulls. This takes time.

More advanced technology exists, such as IR drone images however it's still a challenge to determine species, sex and age class when animals are timbered up.

Presently, we are developing a method to use an iPad with flowing GPS technology for recording all survey data.





Survey results: 598 elk this includes 153 bulls, 345 cows and 100 calves. Those numbers equate to 45 bulls/100 cows and 29 calves/100 cows.

198 mule deer, 45 white-tailed deer, 48 horses, 13 coyotes, and 7 moose. We have a gently increasing moose population.

Total survey time was 4.5 hours. Chances are you're groggy, physically spent from all the twisting and turning, and mentally tapped out from constantly scanning the landscape for critters. The pilot lands us on a ranch road next to our vehicle. It was a good day. Time for a nap.

