

# DRONES

## a rancher's eyes in the skies

“The concept came to my brother, Mike, and I following many hours of riding local range land on our ATVs and on horseback. After watching our dad fly his drone at our cottage, we thought – why not use drones to locate cattle?” says Bridget Andrews. Bridget and her brother, Mike Boeriu, own First Frontier Drones in Clinton, BC.

“My brother is fourteen years younger than me and has never known a world without technology. As a little kid, he learned to read while playing Super Mario Bros and Zelda. The world is a strange place these days! However, those skills of his have made him a competent pilot.” Bridget, on the other hand, has a graphic design and photography background, which she says, “made learning the use of drones, imaging and video-editing a relatively simple undertaking. Now that I’ve logged some serious flight time, it’s given us the option of offering not only agricultural aerial services, but creative as well.”

Since the pair are not ranchers themselves, they pitched their concept to friends Karen and Boyd Smith, owners of Old 57 Ranch and their pilot project emerged from there. “With their help we’ve been able to apply our aerial skills to the range and work out the bugs. And bugs there were! The aerial visibility concept was solid. That wasn’t a problem. The real challenges came down to timing, weather and temperature, battery life and battery performance, image quality, signal interruptions, light and image saturation, drone performance, landscapes and visual line of sight, etcetera, etcetera,” says Bridget.

“Thankfully, I have a go-big, or go-home attitude, so we didn’t just buy a single drone and hang a shingle out in the market,” explains Bridget. Instead, they bought a small fleet of drones, and batteries, and the accessories needed to give them an aerial imaging arsenal at their disposal. “And I’m glad we did. It wasn’t cheap, but by having that fleet available, we were able to fudge through some of the learning-curves that would have had us grounded in the first ten minutes. With each day on the range, we adapted to new challenges and created procedures to increase efficiency.”

By using ATVs and UTVs (side-by-side) Mike and Bridget already owned for their safety training business, they are able to move across the landscape efficiently. “ATVs allowed us to go where trucks can’t go, and horses simply can’t go fast enough.”

Bridget explains, “This enables us to cover huge areas, and to relocate quickly when we come up empty-handed. We haven’t had a single day where we didn’t find cows either from the air, or simply on route to new locations; and we do it in a

fraction of the time it would usually take. Then we relay the location information to the wranglers on horseback.”

The most common questions the pair hear about using drones to find cows is, “What’s wrong with the way we’ve always done it?” and “Why can’t I just buy my own drone?”

Bridget is adamant, “Drones don’t replace horses – they simply give wranglers eyes in the sky.” As she explains further, “They provide real-time information on where the cows are, and where they’re headed, helping wranglers on the ground reduce the search-time during round-up. Drones help locate strays that might otherwise be stuck on the range until next season.”

And drones can be useful the rest of the year too. “Drones easily survey buildings, fence-lines, gates and watersheds. They can do aerial headcounts quickly and accurately. Using thermal imaging, drones can even monitor herds by identifying sick or injured cows before they show obvious signs to the naked eye.”

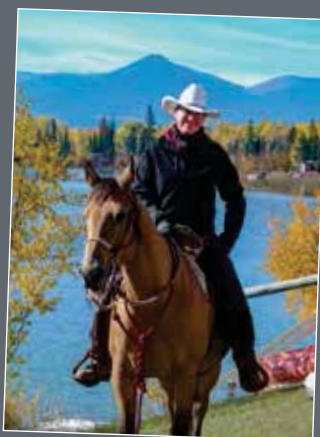
“So, no, drones don’t replace horses. Drones have carved out their own unique niche that helps ranchers develop strategies that will make them more competitive in a market that is rapidly changing.”

With a safety training business already, why not just sell drones and train ranchers to use them? “The reason we didn’t open a business that simply sells drones to ranchers is due to the cost required to truly make drones useful,” says Bridget. She explains, “A single drone and a single battery will not cover a lot of ground. Most batteries have a maximum flight time of about twenty minutes – in ideal conditions. Temperature and wind quickly reduce battery life. Lithium ion batteries have temperaments of their own and knowing how to use them and store them is important. Replacing these is not a cheap endeavour.”

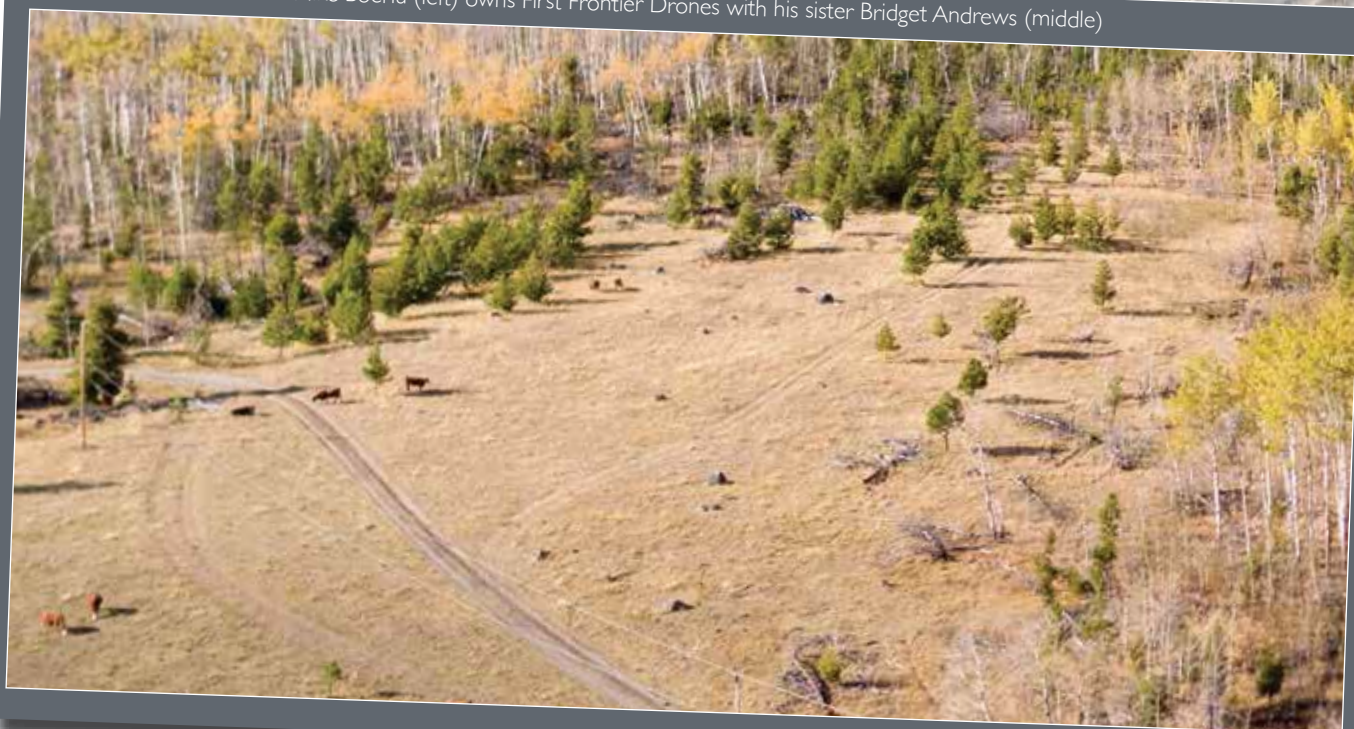
Moreover, Transport Canada regulates flying drones. “Owning and flying a drone is nearly as complicated as owning and driving a car, and for good reason,” notes Bridget. There are mandatory requirements; including education, certification, and insurance – regardless of whether the drones are used for basic or advanced operations. Flying drones near airports and urban or “built up areas” have additional requirements and regulations.

“The regulations may seem like overkill, but they’re necessary as more of this technology takes to the sky. It’s important to ensure that pilots are responsible and respectful of public safety and privacy.”

Micro drones are an exception to the regulations notes



Mike Boeriu (left) owns First Frontier Drones with his sister Bridget Andrews (middle)



Bridget, providing they are less than 250 grams in total weight; unfortunately, their usefulness is also limited when it comes to ranch work. “A micro drone will not handle the altitude or distance required for finding cattle. Not to mention, a 6 km/h breeze will likely blow it to kingdom come, or kill the battery in less than half the time,” says Bridget.

Operating drones has been a learning experience for both Bridget and Mike. “My brother and I have learned a tremendous amount through using drones on a weekly, and often daily, basis. We’ve crashed drones. We’ve had to replace parts.”

And it has come with the odd mishap. “I got too close to

the business-end of a rotor and spent my afternoon in an ER having the skin sewn back onto my finger. That finger still doesn’t bend the way it used to! Using a drone requires our full attention and respect, and improper handling is not only expensive, but can also be hazardous,” cautions Bridget.

“Drones are a rapidly progressing and incredibly useful resource in the rancher’s toolkit. Who knows what the future holds. Perhaps one day drones will pick up and drop off your cows for you! Either way, Mike and I don’t give up until the cows come home!” concludes Bridget.