

## Another View of Soaring Montana

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The publishers of this illustrious rag asked me write about my impressions of soaring in Montana. I guess they figure that as a non-Montanian I might be viewed as an un-biased voice. It also appears they want a little preview for the folks attending the Regional's this summer. I went to Montana twice last year. First I flew from the Gallatin airport, which serves Bozeman, over the Memorial Day weekend. Then I attended a camp at Mission field, near Livingston, during the first week of August.

The two towns are separated by about 25 miles. They are both on Interstate 90 and lie east/west of each other. They are separated by a north/south range of Mountains (the Bridgers). Bozeman is a university town and seems to be an access point for folks with \$\$\$ who have second homes in Montana. From what I saw, it has plenty of nice places to stay and eat. As well as standard type restaurants there are also some rustic local places in some of the small towns surrounding Bozeman. Livingston is an old railroad town turned tourist "trap", as it services the north entrance to Yellowstone. As such, for the size of town it is, it has quite a few motels, restaurants and places to spend money. It's not as "upscale" as Bozeman, but compared to other towns in the West glider pilots frequent, it's pretty nice. Also, since it is set up to service tourists, there are quite of few things for the crew to do. And I hear there's really great fishing. (Did you see: "A River Runs Through It?")

The Bozeman airport is about 8 miles west of town and really sits in the town of Belgrade. It is uncontrolled but services several airlines. It's a nice big airport with lots of paved ramp space. But with 20 or so airline operations a day (yes, it includes DC9s, 727s and 737s) it's not hard to see why the local folks prefer to host camps and contests in Livingston. When I flew at Bozeman I had to wait for airliners to clear the runway before I towed off and had to worry about their approach/departure paths on returning to the field. While the facility is really nice, and the locals operate successfully there, I agree that the traffic does not make it conducive to running contests or camps.

The Livingston airport is about 5 miles east of town on a raised plateau. It is obvious that the wind blows very strong there at some time during the year since the plant life is very low to the ground. The airport has one long paved runway and several other runways which are mowed improvements in the prairie. While these other runways are adequate for soaring operations they are a little dusty and I'm not sure it would be wise to launch a heavily loaded ship from the rough surface. (If you've ever seen how prairie grass clumps, you know why). But, there's lots of room, and during the week I was at Livingston, I could count the number of non-soaring related operations on the fingers of one hand.

Well, enough about the ancillaries... On to more important things. I'd divide the general terrain into two areas: divided by an east-west line running through the two towns. To the north you find north/south running mountain ridges, separated by broad valleys. The valley floors are at about 4500' and the ridges run up to about 9000' with peaks to 10,000'-11,000'. The valleys seem to run from 10 to 40 miles wide. For me, this was reminiscent of flying at Minden. The ridge between Bozeman and Livingston (the Bridgers) especially reminded

reminded me of a miniature version of the White's. On my Memorial Day expedition I had a lot of fun running up and down its 30 mile length. This ridge appears to be the favorite of the Bozeman locals as the top runs within 10 miles of the airport. The area to the west of the Bridgers appears to be irrigated and there are quite a few farms. To the east, it does not appear to be irrigated so the landing opportunities seem to be a little more spread out. But, it is not nearly as intimidating as Nevada. Also, the sectional has regularly scattered airports and the rumor is that there are as many un-marked airports as there are marked ones.

To the south of my imaginary east-west line (roughly I-90), it is very mountainous. Yellowstone National Park is 55 miles or so to the south. Here the valleys can be quite narrow and the areas of mountains are quite broad. There are a couple of significant north south valleys, one (the Paradise Valley) formed by the Yellowstone River which runs south from Livingston to the northwest entrance to the park. The major valleys look quite landable, but the smaller ones don't appear to have many opportunities for landing sites. The mountains mostly run around 10,000' high, but there can be very broad expanses to cross. Soaring over the mountains was fun, but navigation and feeling good about the landing possibilities was challenging.

When I visited Bozeman over the Memorial Day weekend, I had three fun soaring days. This was even though it was quite early in the Montana soaring season and the low temperatures didn't allow the lift to go real high. The first day I just familiarized myself with the area, flying within 20 miles of the airport. I was towed to the Bridger mountains and tried to figure out how to soar them. While reminding me of the White's, finding and using the lift was quite different. There weren't many cu's, and it was not obvious how they were fed off of the ridges. I was able to climb above the ridge and eventually reach 13,000'. There was 3-4 kt lift and I generally spent my time gliding out in different directions and running back to the ridge to climb up as the valley around the airport didn't seem to be working.

The second day Greg (3N, my host) and I decided to try some cross country. When I took off there were quite a few cu locally, although they were lower than the top of the ridges. Off tow I climbed at about 4 kts to 8,500' and decided to head out to the southwest, under the cu and across the low (valley) terrain. I enjoyed running under the cu, which pretty consistently worked at 4-5 kts. After I was 25 miles or so out, over the Madison River, the lift seemed to strengthen a bit and the cloud bases had ascended to 9,000'. Greg had flown due west and I decided to go north and meet him. We joined up in a nice thermal then headed west to the Tobacco Root Mountains.

The cu were not as nice, and the lift not as strong, once we reached these mountains. So we flew down the sides and over the low spots north toward Whitehall. This town is in a nice valley about 45 miles east of Bozeman on I 90. There is a gap in the ridge at Whitehall where we ended up pretty low. Just to the north, the ridge re-forms and heads about 30 miles further where it broadens out and forms the end of a small valley. The cu up there looked real nice but I didn't feel like diving into the desolate looking valley at the altitude I was at. Being the "local," Greg proceeded up the valley anyway. I knew there weren't a lot of distinguishing landmarks when Greg told me to come on up by the "white church"....

church".... (How am I supposed to know where a white church is in a 20 mile long valley?) After hanging around Whitehall a bit, I finally hit a thermal just developing a cu over a mine northwest of town. The lift was decent and I decided to go for it up the valley after Greg. The reward for my fortitude was chasing after dying cu and just making it to the North end where I tied into a nice 4-5 kt thermal to 10,500 under the clouds. (By the way, this ended up being pretty close to a Big White Church!) Greg was off to the northwest a few miles and I decided to proceed north under the clouds. I was able to dolphin fly about 10 miles northwest climbing to 11,000'.

Now I was on the west side the valley formed by the Missouri river which opens south to Bozeman, about 50 miles away. Looking over the valley, I was abreast of Canyon Ferry Lake which extends about 25 miles North. The air over the valley looked absolutely dead, with no sign of lift. About 25 miles east is another north-south ridge which runs to within 10 miles of the Bozeman airport. Or part way down you can jump across a small valley to the Bridger's. It was obviously the right way home. But, it looked to be a long, heart stopping glide to the lift over that ridge. I figured there wasn't much choice as it really looked dead back the way I had come. Crossing that valley was one of the longest, smoothest glides I've ever had. But the far clouds continued to look really nice with the sun on the west slopes below. Given the lateness of the day I flew about 70-80 kts to try to expedite getting there. I picked out a spur off the ridge with some sun on it and a nice cu above and drove on in. After some anxious moments I was rewarded with a 5-6 kt thermal at 7,500'. I climbed up to about 10,500' and headed south. There was a really nice cloud street down the ridge and I dolphined down it only stopping for 5-6 kt lift. Eventually I crossed to the Bridger's and flew fast down them for fun before landing at Gallatin Field.

The last day of my trip the cu's only seemed to be forming over the ridges. I towed to the base of Bridger's, released, and easily climbed to 10,500'. The cu appeared to be forming nicely over the ridge I had flown down the previous day so I decided to see how fast I could run to the north end of Canyon Ferry Lake and back. I cruised up the Bridger's gaining a little altitude and pushed across the small valley to the west. Once I reached the ridge, I found a 6-7 kt thermal. I climbed from about 7,800' and once I reached 10,000' pushed on north. The rest of the flight was a typical dolphin flying trek. Maxing out at 11,000' and only stopping to use lift > 6 kts when I got down to 9,000' or so. I ran up the ridge until I was even with the north end of the lake where ridge lost its definition and the cu turned pretty ratty. It was a really pretty day and I could easily see Helena about 25 miles to the west. I turned around, ran back the way I had come, and found the cu still working well. It was a fast trip home and I couldn't resist crossing over to the Bridger's and running down the top of the ridge one last time. Since I was facing a long drive home I went ahead and landed after only flying 2 1/2 hours. Not bad for a 180 mile plus spring flight.

My next experience in Montana was flying at a week-long camp near Livingston the first week in August. Mission Field is right along the north boundary of the mountains to the south, with a 9,300' peak an easy glide (or tow) away. The Bridger's are about 15 miles to the northwest and another north-south ridge (the Crazy's) start about 15 miles to the northeast. Much to our chagrin, a high pressure system settled in for the week we were there. We never did see the sky full of 18,000-20,000' bases as the "brochure" described.

Like the prairie where I fly, along with the high pressure came a strong inversion.

For the first few days we foreigners could only manage to soar locally in weak lift to a couple thousand feet. But Greg came out and was always able to tow to the mountains to the south and be off and away. Needless to say, the rest of us were a little frustrated with his ability to do this. So we spent the first three days working on figuring out how to get up and out off the mountains. We did eventually figure it out. I think our biggest problem was trying to fly the mountains the same as we would those in Colorado, California or Nevada. Along with figuring it out, the weather improved a bit and we started enjoying ourselves. By mid week we were able to get up on the mountains and the inversion seemed to have raised some. It really seemed like the inversion was a constant altitude over the terrain so while it was around 8,000' over the valley it lifted to about 12,000' over the mountains. So we could fly around above the mountains to the south working the ridge lines, but not working too far back in. We also ventured down the mountains on the edges of the Paradise Valley. There are some spectacular mountains and these forays were well worth the trip.

During this mid-week period the lift was in the 3-4 kt range, achieving 11,000'-12,000' so we were hesitant to really reach out over the mountains. But we did try crossing the valley to get to the Crazy's to the northwest. Much to my surprise there was reasonable lift over the valley's and even over the Yellowstone River and the associated fields which run off to the east to Billings. The Crazy's worked similarly to the other ridges I soared over in the spring. Other pilots spent time flying due north up the valley. I think we were all surprised that while the lift was not real strong it seemed to be pretty regular and that even with these adverse conditions challenging, accomplishable tasks could probably be called.

The last day we flew was by far the best. The cu over the mountains looked higher and nicer than previously, although we feared overdevelopment. I successfully climbed up on the nearby peak fairly quickly to about 12,000'. This was with some satisfaction as I had been working hard all week to master this. I then flew southwest under some small cu and tried to chase after Greg and another pilot who had left earlier. I was able to climb at 4-6 kts to about 14,500' as I moved deeper into the mountainous country. So I pushed on trying to catch up with those ahead of me as they flew to Red Lodge.

Red Lodge is about 65 miles southeast of Livingston on the eastern edge of the mountainous area. As I neared a power plant 15 or so miles short of Red Lodge, the cu started overdeveloping and downcycling. I was not able to easily find lift especially as I sunk lower into the mountains. Not accustomed to being low over this expanse of mountains I became real conservative and started hunting real hard for lift. This was a challenge as I couldn't figure out the clouds now and the lift didn't seem to correspond to the terrain either. Finally, I stumbled into a 6 kt thermal over a rocky plateau which I had searched over previously (although significantly higher). Given that I had been low and nervous over these mountains I climbed as high as I could to about 15,500'. By this time the folks who had flown southeast had returned the 15 back to where I was and were low as the overdevelopment was worse to the south.

I noticed a shelf of clouds heading off to the west and decided to run along it to try it out.

The intimidating part was that it was solid mountains for the next 45 miles to the Paradise Valley. Up high the clouds worked real nice and I have pictures showing 9 kts of lift at 16,000'. As you can imagine I had lots of fun crossing this expanse of mountains. Once I reached the valley I decided to see if I could cross it and try out the terrain on the far side. The weather was significantly different once I moved into the valley as a lot of smoke was moving in from some fires in Utah. But I did find a nice thermal right over the middle of the valley. This allowed me to push to the west and look over the mountains there. I didn't go too much further as the day was dying out and it was a good 25 miles northwest back to the airport. As the day died I decided to run on back and had a real good time as I crossed to the east ridge of the valley and along side it to the north. It was working just enough to allow me to bounce along at a good clip and even climb a little. All in all it was a real fun day and I was able to see a lot of beautiful country.

In summary I think that flying in Montana poses some new challenges. From Livingston, you can easily fly over large expanses of mountains or over ridge and valley combinations. I think the mountains and ridges work significantly different from other places I have flown. This will give us all something new to figure out. From what I hear there can be some really spectacular days with high cloud bases lasting quite late into the evening. Plus, it is really beautiful country to enjoy. Maybe most importantly the local area is set up as prime vacation-land which really helps when you're trying to convince crew to go along.