CCARC News

Capital City Amateur Radio Club

September 2025

PICNIC! SWAP MEET!

About 50 people turned out for the annual picnic and swap meet and had a great time with friends old and new, September 6 at the Fairgrounds.

Photos by Amy Gondeiro KK7QAH

Coming Events 2025

CCARC monthly meeting – September 8, 7 pm at the Salvation Army, 1330 Hudson St. or on Google Meet, https://meet.google.com/zfs-ctwp-bax

October 19 – Just for the Helena of it Run. Jo Lee Hawkins. joleehawkins@gmail.com

Coffee Net – Every Saturday at 9 am on 147.22, Belmont Repeater. Eyeball @ Red Atlas at 9:30.

Trivia Net - every Sunday, 7:30 pm on 147.22. John Monson AJ7MT

Winner of the Yaesu FT 60
Devin Felix KM7AXU

Cindy and Tim Sowa KB7DMK

More Elkhorn Run

CCARC's participation in the annual Elkhorn Run, https://hurlelkhorn.com/, is a much-anticipated event. Our members man stations throughout the 50-mile race, some in remote locations.

For example, watch this video taken by Fred Benson KD0HBA from the back of his mule as he rode the trail.

https://youtu.be/FR1GGr0aToQ

Then there was this from Tom Wulchak K3OWG:

Tom said that Search and Rescue spent some tense moments shooing the moose away. Finally, the runner was able to continue, but Tom said in the excitement he never did get her number.

McClellan Creek by Rob Kingery AE7AQ

Colleen McGuire KD7VDV at McClellan Creek

Skyline Mine by Matt Gould AA7MG

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Elkhorn Run report from Strawberry Butte with the portable repeater on last page

VE News

By John Geach KS7R

Sam Flynn KM7CBO and Andrew Mazanec KM7CBP are the newest members of CCARC, having passed the Technician exam August 20.

Keith Platts KM7AEM upgraded to General.

Assisting with the exams were Darrell Harris KG7LNA and Al Le Vie KH7AL. Congratulations to all on your new licenses and enjoy your new privileges!

The next VE exams are scheduled for October 16. Registration on hamstudy.org is required to take an exam. Please contact John KS7R at jcgeach@gmail.com with any questions.

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Relocating My 2m/70cm Antenna

By Bob Morrow N7PTM

I've been in the same house for 20 years. About 15 years ago I decided to mount my 2m antenna on the roof for local FM use. So, I put it at the east end of the house, directly above the radio room in the basement. At the time, the nearby pine tree wasn't too close to the house. But as time went on, it got closer and started beating on the antenna. I'd clip branches off every few years to prevent that.
I'll teach that tree who's boss....

Finally, I realized the better solution was to move the antenna 65 feet to the west end of the roof, where the nearest tree is 50 feet away.
So that became my weekend project. I estimated I'd need 100 feet of LMR-400 coax so that was ordered. Then I found time to actually remove the antenna and mast (of PVC pipe) from the original location. The PVC needed painting, so I did that. Everything was now waiting for the new coax to arrive. It finally did, so I could begin to relocate the antenna.

Starting at the antenna end, I connected the coax to the antenna, secured the antenna's bracket to the PVC and screwed that to the wood beam. I ran the coax under the soffit to the west end of the house (with the existing tuner control and coax wires for a now-disconnected HF antenna), held in place by screwed-in zip-ties every two feet.

Get the ladder up, cut/remove/reinstall new zip-ties, move ladder two feet, cut/remove/ reinstall zip-ties, repeat about 20 times. My coax made it into the radio room – but was 4 feet short of the radio. So, I bought a section of LMR-400 along with a right-angle PL-259 adapter. I needed that because LMR-400 can't bend around tight corners and there's not much space behind the radio.

Two weeks after I started my weekend project, I was done.

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Dennis Grisamore KK7YFZ attends a transformer class in Turah, MT.

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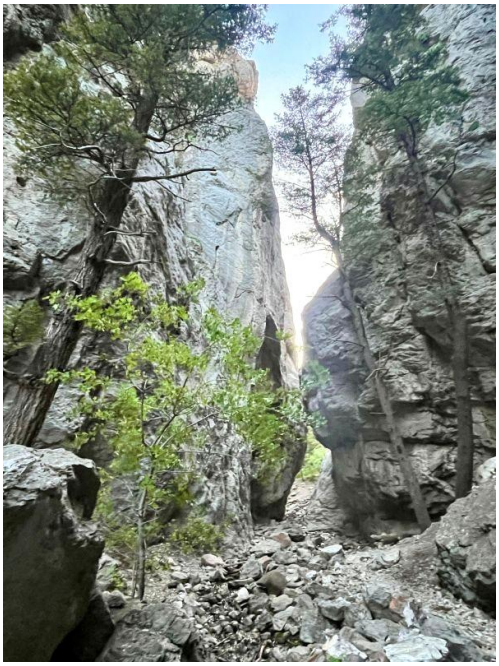
Double SOTA Activation in Gates of the Mountains Wilderness

By Allen Le Vie KH7AL 26 August 2025

As someone who loves maps but constantly underestimates scale, I often find myself staring at a ridge and thinking, “I could do both of those summits in one day.” Spoiler alert: I did. But it cost me a full day in the backcountry, about 13.5 miles, over 5,000 feet of elevation gain, and a pair of socks full of pokie grass seeds.

The day started early at Refrigerator Canyon Trailhead, with cool temps and the sound of chipmunks and unseen elk in the woods. If you haven’t been, Refrigerator Canyon is a gem—narrow, green, and breezy, even in the summer. After a brisk hike past the narrows and up to the Willow Creek trail junction, I left the trail and made a steep ascent toward Moors Mountain (W7M/CL-062) via a game trail.



I was traveling light for a change—just a daypack, LNR Precision MTR4B CW rig, and a roll-up J-pole. The summit of Moors was quiet, shaded, and nearly windless. After refueling, I got on the air. First in the log was Bill N7MSI, 2 meters. After a few more local QSOs, I moved to HF. My EFHW antenna resonated well on 40 and 20 meters, and I made 23 contacts, including DX with F4WBN and JA0AWE.

Summit #2—an unnamed peak (W7M/CL-076)—was about 2.5 miles away; and just outside of the Gates Wilderness. I followed the ridgeline down from Moors and up again through meadows, over a false summit, and into an expansive boulder

field to the top. The view included a steep drop-off with lodgepole pines level with my eyes—not the place to lose your footing.

Again, Bill was first in the log on 2 meters (thanks, Bill!). The rest of the 24 contacts came on 20 meters, as 40 meters went quiet. Instead of returning over Moors, I took a trail marked on my map that supposedly connected to the Willow Creek trail. It existed—barely. The path was cluttered with deadfall, and I found myself crawling, climbing, and losing it altogether in overgrown meadows. But I eventually intersected the main trail again, socks and legs now covered in Velcro-like seeds.

By mile eight, I was feeling good and ready to beat the clock. I jogged the remaining five miles, stopping to filter spring water and cool down in the narrows before hitting the trailhead. Total trip: 13.5 miles, 5,000+ feet gain, two successful SOTA activations, and one epic rinse in the creek.

For the full length trip report and a few more photos check out my blog post at: https://kh7al.site/gates-double-sota

Thanks to everyone who chased me!
73, Allen ~ KH7AL

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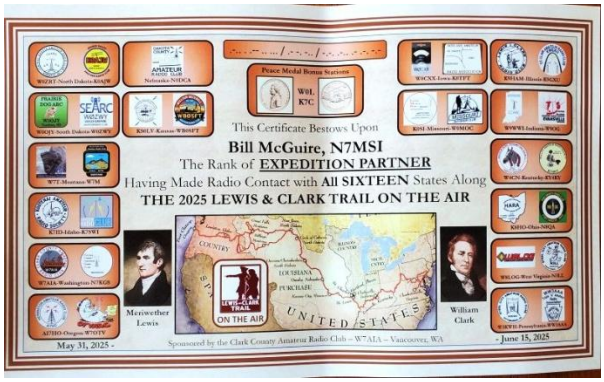
Great Contesting



Bill McGuire N7MSI

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Always

Hams can always be counted on to step in where help is needed. Recently a crew took down Morry's tower for his widow. That's long-time ham Morris Campbell W7AW/SK, well-known in the amateur radio community. On the very top of the tower is Bill McGuire N7MSI. Operating the crane was Matt Gould AA7MG and Kevin Morgan W7KRM.

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Hamfest Postscript

By Stacy Webb KK7CJB

Note: In last month's issue Stacy gave a glowing account of the great time she and Eric KE7NLU had at the Glacier-Waterton Hamfest. She wanted to add this.

It was great to meet Greg Heide KC7GIO, and his son James, who helped during the Hamfest auction. James is the third generation Hamfest attendee and the grandson of Don W7MRI/SK. James filled the shoes of his dad and uncle Kevin KB7HSA as the official Hamfest auction helper.

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Another Year

By Tom Mandera KE7VUX

Another year, another Elkhorn race in the bag, and another frustrating Portable Repeater experience.

Michelle (KF7DYZ) and I left work early on Friday around 3pm. We had most things loaded up, so we were on the road by 4pm. A storm was blowing through as we went down, but when we hit the dirt, the storm was over and the road wasn't dusty.

We put the F350 into 4-high and headed up the Woodchute Road – not the most direct, but somewhat smoother route for the pop up camper in tow. Last year the camper got a lift, a new non-drop, non-bent axle, but still rode on the old 13" wheels – this year the 14s were installed for more clearance and load
carrying capability.

We were on station by 4:30pm – a quicker trip that we expected and had things setup by around 5:30. It was a refreshing change from setting up in the dark the last few years.

We had simplex communications with Fred KD0HBA most of the way up and were able to relay some traffic back to town here and there.

Initial testing of the portable repeater that night went well, though Rob, AE7AP, trying to come in from his location in town was cutting in and out, while others were initially working fine and then started cutting out after.

Figure 1: 24' of mast, SGC 230 tuner, 43'x2 doublet, along with a 20m coaxial dipole at a right angle

Recording:
https://www.youtube.com/shorts/eCe_OgDEecU

- At 5:50am I was up and turning on the repeater. Battery system was at 12.32V and there was just enough sun coming in that the solar array was at 12.27V but not yet charging. I had my HF station up and running on Friday night, but only took the first photos on Saturday morning, along with the mast and repeater antenna.
- By 6:23am the sun was producing 30V on the array and charging 2w or 0.10A into the 12.31V batteries.
- By 7am, 37w were being produced – 82.2V@0.4A – with the batteries now 12.46V and charging at 2.70A.
- At 7:40, it was a 7.3A charge rate at 12.50V,
- 8am saw 13.39V and 10.90A charging,
- 9am 14.02V and 17A (86.74V/2.8A/246W coming in from the 800w of solar).
- 11am things were tapering off not because of a lack of sun, but a lack of need – the batteries were already full and floating.

Power was not a problem, even with the solar panels lying flat on the roof (sub-optimal).

I started the day with the antenna relatively low; then when working with KE7NLU I extended it another segment, but in the end no change. Looking at the 6:30am view along my truck, the terrain drops away and a little more elevation likely does little.

One concern with the repeater was the duplexer and how it reacts to sunlight. I made sure to keep it well shaded this year.

As you can see, it was under the camper, with the repeater parked on top of the black duplexer, with plenty of blockage from the sun – Brian suggested an umbrella, but the wind made that impractical.

Speaking of wind – you can see the halyard blowing in the breeze and the tire I used to hold the tripod in place before I could guy it. Also note the cable is pulled away from the flagpole the repeater antenna is on.

The repeater started out well then acted up as time went on. Here is a 7am transmission that was just fine.

https://youtube.com/shorts/KB6StR8R_kE
But at 7:35 when Eric KE7NLU checked in, with a higher-powered mobile (I believe) from Tizer Lake, he has some difficulties.

https://www.youtube.com/watch?v=MKq6AnvR0HU

At 8:05am we have some more glitching

https://www.youtube.com/watch?v=pFk90T2WNcI

But at 8:10, Brian KJ7OUF came in just fine for his entire transmission.

https://youtube.com/shorts/KNoK7Oh3v-o

Sometime after, race control gave up on the portable repeater and we all moved to the DMR system.

Around 11am I decided things might be calm enough to do some more experimenting – the repeater seems to work fine any time we set it up at home, so what about the conditions on Occidental is different and what can we do about it? Eric KE7NLU was free to help me for a minute.

https://youtube.com/shorts/wGPaG-PHzfQ?feature=share

I had the earlier recording showing he was having difficulties, but of course when we went to experiment he was doing fine. He dropped power, and I got what I expected – what seems like someone on the fringe of coverage (like Rob on Friday night) or with a low battery that starts strong and then flutters as the repeater struggles to keep the incoming transmission captured with the presence of the stronger transmission going out.

I changed the repeater antenna out for a 3-element beam, but I wasn't able to reel Eric in from my position while waving the antenna about – the signal was so spotty it was hard to zero in, and I was out of tripods and stands so I was standing and waving – poor results.

I went back to the vertical. I also changed some of the connections beween the repeater and the duplexer – they were crossing at first, so I rearranged so one passed around the far side of the repeater to get to the duplexer, and the two lines never crossed. I also added another section to the antenna. The immediate results were great – Eric was in at medium power and sounding good (no more videos, unfortunately) – but then moments later, even on high power he couldn't hold the transmitter.

Fred KD0HBA sounded good as well, but then it acted up. All while I stood there, staring at it, touching nothing. Batteries were above 14V. A borrowed in-line volt/ammeter indicated 13V at the repeater during transmit, and a draw of 10A.

It's possible there's a problem with the power from my batteries – in this case, it's a short run of wire from the two batteries on the tongue of the trailer down and under the tongue to the repeater. A short distance. Last year I swapped out the batteries for an alternate supply – 13.8V regulated from a 60V Dewalt battery pack – to rule out whether it didn't like the 14V from the batteries (plus solar float charge) or some other aspect – and it made no difference. I did not repeat that experiment this time.

In the past I've changed out coax. We used a different vertical this year – slightly higher gain – than last year, though a very similar antenna, on the same mast, at a slightly lower average height this year (the wind was quite brutal, though thankfully no lightning to content with this year).

Nothing seems to have made a difference.

Al WA1TYB confirmed the duplexer doesn't like sunlight – the notch filters don't notch as deeply when hot – so it was shielded from the sun this time and still acted up. My theory (it matches that of Don W7MRI/SK, since he put the split tone in to try to combat it) went out the window when Eric was able to come in on medium power, but then struggled on high power a moment later. The big variable for me right now is the power supply. When we test at home – I had it setup at my house, and Al had it at his for a while – I believe we've been using the built in 110V/12V power supply. When I'm operating the repeater in the field, I'm using the 12V power poles Don brought out the back of the repeater unit.

I'm supplying it between 12.4 and 14V depending on charge. Don didn't seem alarmed. But I did swap out (last year) for a 13.8V regulated supply with no change.

Does it need 12V and not 13.8V?
It works fine at times on whatever voltage we feed it. What I am starting to consider is if the problem is duty cycle related. Frequently I would hear someone call race control, and they were fine. Race control would return, and they were fine, then on the third transmission things would start to act up.

Confusingly, sometimes the third (HT) transmission was bad, but race control (4th transmission, high power) would come through fine, with a bad 5th transmission – but other times, the high-power station would also come in and out. The more we use it, the more prevalent the issue becomes. Is that a problem only when operating on ~12V power?

The repeater is a Motorola DeskTrac, Model L43SUM7000BT

As to the rest of our adventures – there was no storm overnight, just a lot of wind. Saturday was a nice day, except for more wind. The wind blew so hard it tore my 20m dipole in half, and I did a poor job of securing my SGC 230 auto tuner to the halyard when I raised it, and the wind blew the tuner horizontally enough to lift it up and over the knot it was hanging from.

I was having a hard time on Saturday afternoon completing a QSO – the tuner kept adjusting. At the time, I thought the wind was blowing the antenna wire so hard it was changing the tune, but perhaps if I had looked outside at that moment, I might have found the damage at that point.
I activated the summit W7M/HB-146 for a bit Friday night (5 20m SSB) and then tried my hand at FT8 for the second time, making an 80m and 40m contact before calling it a night.

Saturday morning, after turning the repeater on, I managed to complete a 160M FT8 contact (to Powell, WY), and several 80m, and a bunch of FT8 on 30m before Michelle stirred from her slumber and I did some more SSB.
My longest contact was my only 15m contact, with Switzerland. The 10-10 contest and the 10m band disappointed again this year. I also found Cuba on 30m. I made zero contacts on 2m.
There was an ARRL 222+ contest going on this weekend. I tried a few times to raise folks on 446.000, as well as trying SSB, FT8, and even listened and tried for a little MSK144 meteor scatter but all of those efforts yielded only two FM contacts back to Helena, off the back of the beam, with KI7MHG and KI7SVS. Thank you both!

I'm not sure that two contacts across the same grid square I was already in will get me the distance score needed to win, but that's two more contacts than I otherwise had. No one from Bozeman heard my call this time.
I made 40 contacts in total, a new personal best for this summit (and just behind N7MSI's 42).
Total power consumption for the period was 1.2kwh this time. Solar production (of 800w possible) peaked at 305w. Lowest battery voltage was 12.18V and peaked at 14.34V.

We didn't use the repeater much, though even on standby it has a constant fan going. I did run the furnace a bit in the morning, I was busy doing 100w HF most of the day, had several other radios going to monitor, and also had an inverter powering the laptop from time to time – so more than last year's 960wh.

Hams and Hobbies

Amateur radio enthusiasts are typically multi-talented and participate or lead in other hobbies. Examples:

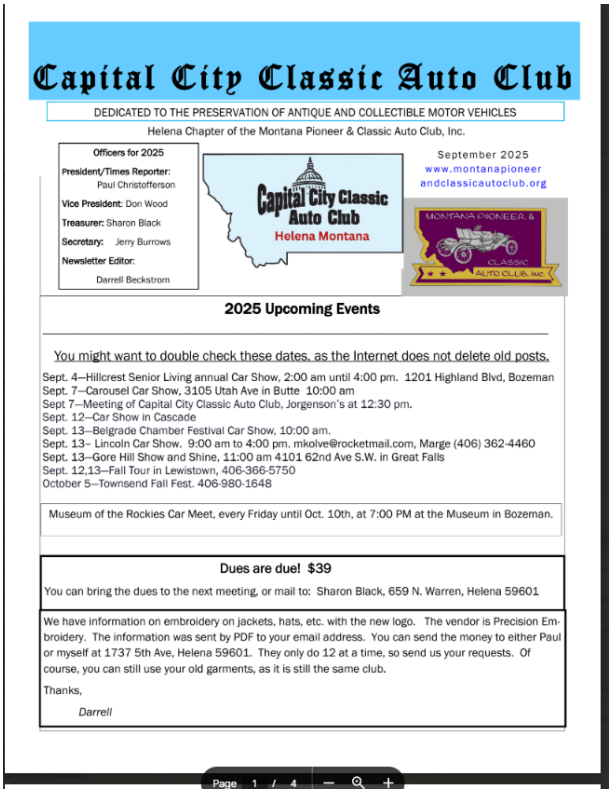
- The BMW Motorcycle Club, mtbmwriders.org
  Bill Erhardt K7MT

- Capital City Classic Auto Club
  - Front page below

  Contact Darrell Beckstrom, **mtbeckstrom@gmail.com**

- Rocky Mountain Land Rovers
  https://www.instagram.com/rockymountainlandrovers/
  Jay KG7SYX or Daysee Swant KI7CNG

- Last Chance Square Dancers
  www.helenalastchancesquares.com
  Bob Thola N9IB and Annie Bailey, **anniebailey825@yahoo.com**



Capital City Classic Auto Club

DEDICATED TO THE PRESERVATION OF ANTIQUE AND COLLECTIBLE MOTOR VEHICLES

Helena Chapter of the Montana Pioneer & Classic Auto Club, Inc.

Officers for 2025
President/Times Reporter: Paul Christofferson
Vice President: Don Wood
Treasurer: Sharon Black
Secretary: Jerry Burrows
Newsletter Editor: Darrell Beckstrom

September 2025
www.montanapioneerandclassicautoclub.org

2025 Upcoming Events

You might want to double check these dates, as the Internet does not delete old posts.

Sept. 4—Hillcrest Senior Living annual Car Show, 2:00 am until 4:00 pm. 1201 Highland Blvd, Bozeman
Sept. 7—Carousel Car Show, 3105 Utah Ave in Butte 10:00 am
Sept 7—Meeting of Capital City Classic Auto Club, Jorgenson's at 12:30 pm.
Sept. 12—Car Show in Cascade
Sept. 13—Belgrade Chamber Festival Car Show, 10:00 am.
Sept. 13– Lincoln Car Show. 9:00 am to 4:00 pm. mkolve@rocketmail.com, Marge (406) 362-4460
Sept. 13—Gore Hill Show and Shine, 11:00 am 4101 62nd Ave S.W. in Great Falls
Sept. 12,13—Fall Tour in Lewistown, 406-366-5750
October 5—Townsend Fall Fest. 406-980-1648

Museum of the Rockies Car Meet, every Friday until Oct. 10th, at 7:00 PM at the Museum in Bozeman.

Dues are due! $39

You can bring the dues to the next meeting, or mail to: Sharon Black, 659 N. Warren, Helena 59601

We have information on embroidery on jackets, hats, etc. with the new logo. The vendor is Precision Embroidery. The information was sent by PDF to your email address. You can send the money to either Paul or myself at 1737 5th Ave, Helena 59601. They only do 12 at a time, so send us your requests. Of course, you can still use your old garments, as it is still the same club.

Thanks,
Darrell

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May we mention your club or hobby? Send your information to Marla, mkulib@gmail.com

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Capital City Amateur Radio Club
Helena, Montana

Editor: Marla Unruh KM7LIB
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Club website: n7rb.org
CCARC Shack Tour – website with member profiles

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