NCARC Tri-Bander

Volume 7, Number 4 April 2026

From the NCARC President

Joe Hawley KDØTYU
president@ncarc.co

I want to take a moment to thank everyone for being a part of the Northern Colorado Amateur Radio Club. It's your participation, enthusiasm, and support that make this club what it is, and I truly appreciate it.

Over the past few months, we've had some great opportunities to get out into the community and share our passion for amateur radio. One of the highlights has been our work with the fifth-grade class at Beattie School in Ft Collins. Alongside Don Heyse and Chris Kochenour, we've introduced students to ham radio, including basic operating procedures, common ham lingo, and even a bit of Morse code.

We've also been working toward getting the students on the air using our Horsetooth repeaters and HF. Our goal is to get them out on 20 meters, and last year we made contact with Canada—something we're hoping to repeat. By the time you read this, we hope to have photos and a more detailed write-up available on how everything came together.

Looking ahead, we have some important work coming up. As we move into the summer months, we are preparing to wrap up Phase One of the Red Feather project. We are planning a work trip on April 25th, and we could really use your help. If you're available to join us, please reach out as soon as possible.

This project has taken longer than expected, and we've encountered more than our fair share of challenges along the way. That said, we're getting close, and once completed, this will be a strong and valuable repeater site for our community.

Again, thank you for being a member of the Northern Colorado Amateur Radio Club. Your support and involvement are what keep us moving forward. We've got a lot to look forward to, and we hope to see you at the meeting this Saturday!

NCARC Club Meeting

April 18, 2026

8:30 am Golden Corral opens- breakfast and socialize, **9:00 am** club meeting

In Person and online

Zoom streaming - All members will receive a link to the online broadcast.
If you don't receive a link by Friday before the meeting, please email treasurer@ncarc.net
You choose what you feel comfortable doing: attend in person or online.

Topic:

Parks on the Air (POTA)

Tim Annable, WW8L

Location:
The Golden Corral
1360 Sculptor Dr, Loveland CO 80537

Officer Elections

The Northern Colorado Amateur Radio Club is accepting nominations for all Officer positions on the Board: President, Vice President, Secretary, Treasurer and Station Trustee.

The Elected Official positions that are open are: Technical Committee Officer, Public Affairs Officer and Board Member at Large.

All positions are for 2-year teams.

In May we will be holding the election, and everyone is welcome to run for any of the positions. If you are interested, get your nominations to Joe Hawley, president@ncarc.co by the end of the April meeting.

Your involvement and support are crucial to the continued success of our club. Thank you so much for your dedication to the Northern Colorado Amateur Radio Club.

Interested in helping with the ARRL Year of the Club events?
Please contact Joe Hawley and volunteer!

Please Renew Your Membership for 2026!

Remember – your dues are due in **January**!
If you haven't paid yet, you are past due.
Renew your NCARC membership now!
It's quick and easy.
Click here!

Treasurers Report



	Mar 2026
Beginning Balance	$15,092.75
Income	$1,404.63
Expenses	$644.52
Assets	$15,852.86
Sources of Income	
	Membership Dues
Sources of Expenses	
	Red Feather Project

Welcome our newest Club Members

KF0WRN
KM6DSL

Pete Robbins W0RCR
treasurer@ncarc.co

Did You Know?

A regular contribution from Bob Schmid, WA9FBO

The Western Telegraph

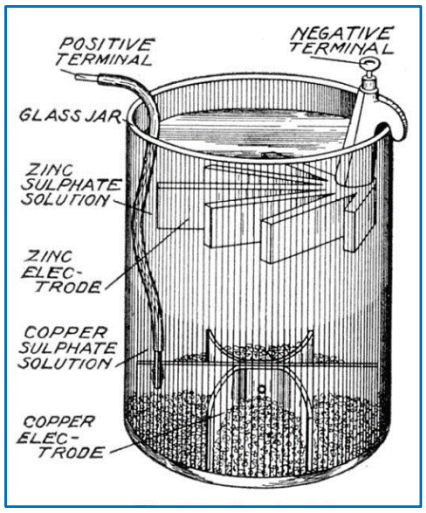
When the telegraph came West, it was both a technical marvel and a lifeline. The wire carried everything from rail dispatches to war news to personal notes—but keeping it going took constant work.

Engineering

Engineers carefully chose wire gauges, battery voltages, and station spacing, “tuning” each stretch of line for clear dots and dashes. Iron wire was strong and cheap but had high resistance, corroded quickly, and changed behavior with rain, snow, dust, or ice. Resistance, inductance, and capacitance along the line affected the rise and fall of current in the sounder, blurring dots and dashes.

The Battery Room

Every station had a battery room—the most important (and messiest) part of the operation. Lines typically operated on 80 to 120 volts DC, though short loops could use as little as 20 to 40 volts. Power came from racks of series-connected Daniell or gravity cells, each a heavy glass jar supplying about one volt from zinc and copper electrodes in sulfate solutions. The high voltage was needed to overcome line resistance, compensate for leakage, and give sounders a good “snap” so operators could copy Morse in noisy rooms.



Daily chores included topping off copper sulfate, checking zinc wear, adding water, and cleaning off crystals. Full rebuilds came every few months. Operators added cells in series to boost voltage or in parallel for busy lines, but too much power burned contacts and ate away wire.

Never Silent

After finishing a message, the operator would throw the ‘circuit closer’ switch, restoring the line to its normal state with a steady loop current. To begin another transmission, either end could open the switch, producing a click in the far sounder—a signal that a message was about to start. In this way, both operators could summon each other and decide who would take the lead. Keeping the line continuously energized also served as a built-in monitor: any unexpected silence meant a broken wire, a downed pole, or a dead battery.

Many Hands

Working a station was no desk job. Frontier telegraph operators were part electrician, part chemist, part lineman, and part survivalist.

Stations were 15 to 25 miles apart, sometimes less in rough country. Each was a human repeater: the operator listened on one circuit and re-sent the message on another. A message might pass through half a dozen hands before reaching its destination, so accuracy and a clean “fist” were prized.

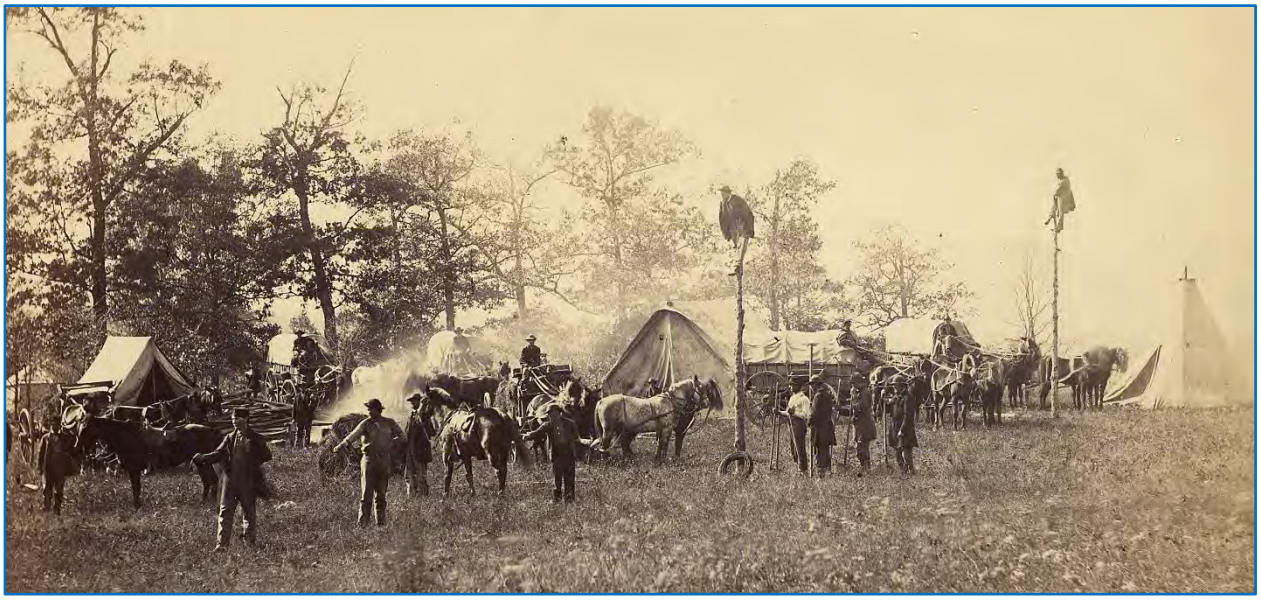
Distance had hard limits. Telegraph lines used a single-wire, earth-return circuit, typically carried on 60 to 70 poles per mile. The wire was often #9- or #8-gauge iron. Over long runs, wire resistance and leakage (especially in rain or dust storms) weakened the signal. Even with strong batteries and electromagnets, there was a point where the sounder’s click became faint. In dry weather with good wire and poles, you might reach 40–60 miles, but in storms or with poor maintenance, even 10–15 miles could fail.

One advantage of placing stations close together was that repairs could be made more quickly. Operators doubled as linemen, climbing iced poles, splicing broken wire, and chasing livestock off fallen lines. Each post stocked spare parts, chemicals for batteries, and basic supplies. Many also provided food, water, and shelter for staff, and at rail or Pony Express stops, for horses and trains as well.

Enemies of the Wire

Nature was relentless. Lightning strikes carbonized poles, and rain and snow bled current through wet insulators. Dust storms left conductive grit, and winter ice snapped wires. Summer heat stretched them until they sagged. Bison or cattle rubbed against poles until they leaned or toppled.

Telegraph lines could be targets of attack—sometimes by Native groups resisting westward expansion, sometimes by outlaws, and sometimes by Civil War raiders. A Wyoming repair crew once discovered every pole for half a mile had been burned during the night.



Lineman With a Gun Belt

Repair crews rode out in pairs, carrying climbing spurs, splicing tools, insulators, and often a revolver or rifle. The work meant long rides, pole climbs in bad weather, and delicate splicing while watching the horizon for trouble. On the plains, a lineman was as much a scout as technician.

Ears and Hands

Inside the station, springs, pivots, and contacts needed constant adjustment.

Operators recognized each other's "fist" and knew who was sending without ever seeing a name. Between official traffic they swapped gossip, relayed news, or sent "attention" calls to rouse a sleepy partner down the line. Long night shifts in isolated depots meant the sounder was the only company.

Life was hard—modest pay, dangerous work, unpredictable hours. Still, the telegraph was the 19th-century internet, linking distant towns in seconds. Skilled operators took pride in keeping that lifeline running.

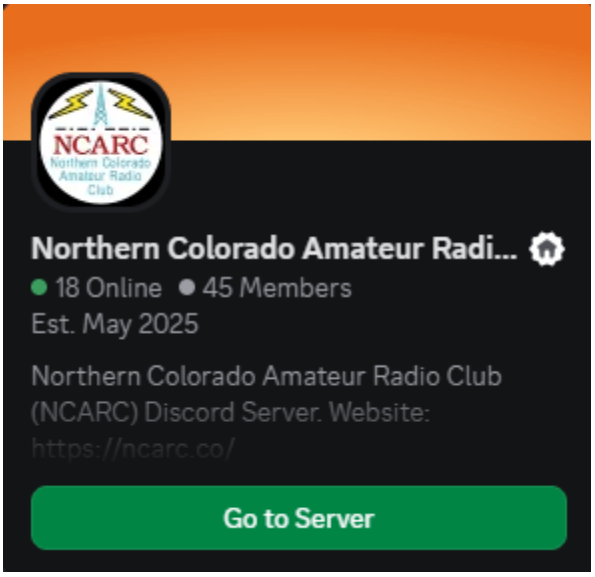
Hamlet Hands-On Radio Class

The Northern Colorado Amateur Radio Club hosted a hands-on Hamlet class on March 28. It was an intro to using your HT to get on the air. They covered everything from etiquette, simplex, repeaters, DMR and making your first contact. There was also an HF set-up that attendees could check out. A big thank you to Greg Ella for once again hosting in his personal “classroom” (his garage!).





[Join our NCARC Discord Server!]



Crystal Lake - Redfeather Project Assembly Day

The plan is mostly in place for **April 25th**!
Leaving Fort Collins ~9 am, arrive ~10 am. About 5 hours of work is expected.
Please contact Joe Hawley **asap** if you are interested or able to help.

FIELD DAY
JUNE 27 & 28, 2026



What is the ARRL Field Day?

ARRL Field Day is an annual amateur radio event held on the fourth full weekend of June, bringing together ham radio operators across North America for a 24-hour exercise in emergency preparedness, communication skills, and community outreach. Participants set up temporary radio stations in parks, fields, or other non-traditional locations, often using generators, solar panels, or batteries for power. This makes Field Day an excellent opportunity to test radio equipment, antennas, and power sources under real-world conditions—just as one might need to in an emergency. It's also a great way to make contacts across the country, try new modes or bands, and demonstrate the versatility and reliability of amateur radio to the public.

Open to the Public

On Saturday, June 27 we are going to be open to the Public.

We want to educate others about our hobby, inspire interest and share knowledge.

There will be Club Stations, Food, Drinks, Raffles and Prizes.

Know a local government official, school or organization that might be interested? Invite them too!

June 27, 11 AM – 6 pm
7784 County Rd 72, Windsor

Sign up!

How can YOU get involved!





Be an Operator
Bring your own equipment, operate SSB, CW, Digital. Extra points if you can operate on battery or solar.

Don't have equipment? The club will have several stations setup; we just need operators to man them throughout the day, make QSO's and help visitors get on the air.

Even if you are new to the hobby, come be a part of Field Day and try different modes of communication.

Volunteer
We need volunteers:
- Welcome Visitors
- Safety Coordinator
- Radio Coordinator
- Photographer
- BBQ Engineer

Make Contacts, Learn & Have Fun!
Field Day is a great opportunity to try your hobby outside, meet new people and help others learn about Ham Radio.

Sign Up today!

https://ncarc.co/ncarc-field-day-2026/

Northern Colorado Amateur Radio Club Outreach Inspires Future Hams at Beattie Elementary

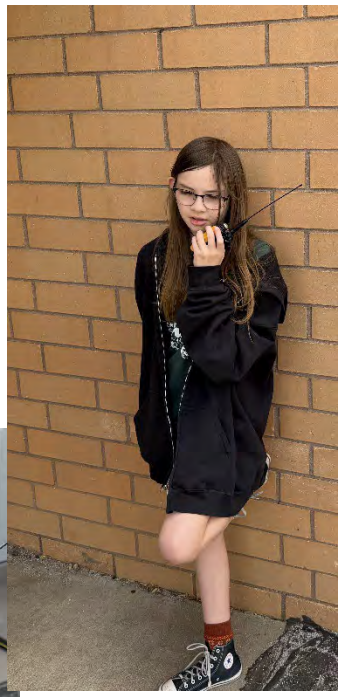
The Northern Colorado Amateur Radio Club recently returned to Beatty Elementary School, sharing the excitement of amateur radio with eight enthusiastic fifth graders. Our team introduced the students to the world of ham radio, explaining the basics of communication and offering fun hands-on lessons in Morse code and the ITU phonetic alphabet.

The real highlight was getting the students on the air! Using 20 meter, UHF and VHF bands, the kids made live contacts across the United States, experiencing firsthand the thrill of reaching out to fellow operators. With help from club members and our trusty Horsetooth repeaters, the students learned the basics of radio operation and gained confidence as they chatted with operators in different states.

We want to extend our sincere thanks to everyone who volunteered their time and equipment. Your support made these sessions possible and truly memorable for the students. As we continue our outreach and educational activities, we'll post updates and share photos on our club website and via email—so keep an eye out!

Interested in getting involved in future events? We're always looking for more club members to share their knowledge and passion with the next generation. Exciting news: we're also exploring adding another repeater to expand our coverage and capabilities. Stay tuned for more updates and opportunities to participate!









Upcoming Ham Radio Events

Crystal Lake – Redfeather Assembly Project: Apr 25, 2026, contact Joe Hawley for more info and to sign up.

Quad Rock Race Event: May 9, 2026, Lory State Park, Fort Collins, CO. More info here. Contact Ron KØAZA

ARRL Field Day: Jun 26-27, 2026, Windsor, CO. More info here.

Never Summer Race Event: Jul 24-26, 2026, Gould, CO. More info here. Contact Wayne ADØKE

Red Feather Trail Jamboree: Sep 25-27, 2026, Red Feather, CO. More info here. Contact Bryan NØBCB

Blue Sky Marathon: Oct 17, 2026, Fort Collins, CO. More info here. Contact Ron KØAZA

Weekly On Air Events

FoCo CW Round Table, Tuesdays, 8:00 pm MT, 7.118 +/- for QRM. More info here.
NCARC Tech Net, Mondays, 6:00 pm MT, 447.275 (100 Hz tone)
NCARC Club Net, Wednesdays, 6:30 pm MT, 447.275 (100 Hz tone)

Biweekly Get Together

Martinez-Clarke Luncheon: every other Wednesday, 11:30 am,
(next one Apr 29, 2026) Perkins Restaurant, 2222 W Eisenhower Blvd, Loveland, CO

From the Editor
Ann Donoghue KØARD
newsletter@ncarc.net

I hope you've had a chance to have some fun with your radio! Why don't you email me with a description and a picture or two? It would be great to include in the Newsletter!