THE WIRED BIRDER

Group Coordination

David M. Larson

When birders are on a group field trip, on foot or in automobiles, communication is important in ensuring that all of the participants see all of the birds. While groups on foot can often be coordinated by voice or arm waving, it is more difficult to maintain communications in separate vehicles. With the use of Citizens Band radios (CBs), and now Family Radio System (FRS) radios, group communication can be maintained. In different parts of the United States, birders or clubs have adopted communication standards for these radio-based systems. In Massachusetts, Brookline Bird Club field trips are often coordinated, vehicle to vehicle, using CB transmissions over channel 25, complete with elaborate monikers. In the vicinity of the Parker River National Wildlife Refuge, there can often be considerable birder traffic over channel 25, whether there is an organized trip or not. In Minnesota, road trips organized by the Minnesota Ornithological Union also employ CB radios, as do countless other birding organizations. In auto caravans, birds sighted can be shared, stops and problems can be announced, and lost vehicles can be found. On foot, carrying portable radios can allow groups to spread out, cover more territory, and still remain in contact.

Some groups have started using the newer FRS radios. For example, the DuPage Birding Club, and other clubs in the Chicago area, use FRS channel 11, code 22, for communications. In Massachusetts, a de facto standard has evolved around channel 10, code 33. So, what is the difference between FRS and CB, and what the heck is GMRS?

CB (Citizen's Band) radios have been in use for decades, and became popular in the 1970s due to songs and movies celebrating the romanticized life of truckers. They are AM (amplitude modulation) radios and operate on the 27MHz band, with 40 possible channels (Channel 9 is reserved for emergency or vehicle assistance use). Since CB radios use AM, there can be considerable interference and environmental noise. Spillover from illegal, overpowered radios can also be a problem. The Federal Communications Commission (FCC) has established a large number of regulations, but seems not to enforce many of them. There are even several websites that offer details on how to increase the power of your radio, in defiance of the FCC.

Vehicle mount CB radios cost as little as $30 (plus the cost of an antenna), and portable units are as low as $80. Beware of what you are getting at the low end of the price range. Minimally, you will need channel selection, volume controls, and squelch control (used to clean up noise and spillover). Some cheaper units lack squelch control, making them fairly useless. Portable CB units are relatively heavy and bulky, but theoretically can reach out five miles or so (usually less depending on terrain and atmospherics, especially since portables have short antennae). In vehicles, portable CBs can be very problematic since AM radios really require exterior antennae for

optimal performance. In birding terms, vehicle-mounted CBs make sense for vehicle-to-vehicle communication, and handhelds might be a portable solution for groups who have already settled on the CB standard.

In contrast, FRS (Family Radio Service) radios are lighter, smaller, and relatively free of interference, since they operate on the 462-470 MHz FM (frequency modulation) band. FRS radios are limited to one-half watt, so their range is theoretically only about two miles. Each of the 14 channels has 38 "privacy" codes, providing for over 500 discrete combinations of channel and code (e.g., channel 10, code 33). FRS radios are a good choice for group coordination while on foot, and can be useful in automobile caravans.

FRS radios are restricted to portable (handheld) units since mobile units (installed in vehicles) are prohibited by the FCC. Portable FRS units are inexpensive: two units can be purchased for as little as $40 to $70, and fancier radios can be purchased for less than $200 a pair. Note that some of the least expensive radios have only the 14 channels, without a choice of codes, limiting their usefulness if you want to communicate with the majority of radios that use codes. For the extremely wired birder, Motorola has introduced an FRS radio with an altimeter, barometer, digital compass, and 10-channel weather radio (Talkabout® T6320, about $170 each). The rumor is that an integrated GPS receiver will be next.

An intermediate choice between CB and FRS is the GMRS (General Mobile Radio Service), which is essentially FRS on steroids. Occupying the same radio spectral footprint as FRS, GMRS radios use up to two watts of power (five-mile range), but their use requires a permit from the FCC. GMRS radios are also a little bigger and heavier, and much more expensive than FRS units. Supposedly, GMRS radios are limited to family use, meaning the permit is issued to an individual and the radios can only be used by that person's immediate family. These limits would seem to make the use of GMRS unlikely for general birding.

While CB and GMRS radios have theoretical ranges of five miles, and the lower powered FRS radios only two miles, the real range is not only less than the theoretical (unless you are birding in outer space), but is highly dependent on topography (all radios), atmospherics (CBs especially), noise (CBs), and other degrading factors (see the FRS versus CB webpage for a discussion of some of these factors).

So, what are you going to use? It depends on whom you want to talk to or what is in use in your area. If you always go birding with the same person, then get whatever fits your style. If you bird with a club or other group, ask around.

The use of radios for group communication on the ground, whether portable CB, FRS, or GMRS, can be controversial. While useful in that scattered groups can be gathered for a good sighting, or scouts can be sent out to check locations, discretion is advised when birding in popular locations or when outsiders are present. People who are not members of the group may not want to listen to extraneous and distracting chatter and certainly have every right to object to this sort of intrusion. In addition, the use of radios may be counterproductive if the racket frightens away the birds. The

use of accessories such as headsets, lapel mikes, or ear buds can reduce the nuisance factor. Finally, the use of electronic devices is prohibited in Massachusetts Audubon Society sanctuaries, and the use of radios is prohibited when following American Birding Association Big Day rules.

So, if you are trying to keep track of a group, and maintain communications, why not just use cell phones? More and more birders have them, and use them to alert their friends to interesting birds and situations. However, using cell phones for field communications and group coordination can be problematic. First, coverage can be spotty, especially in remote areas. Second, depending on the calling plan and vendor, there may be no way to call a cell phone that is out of a local calling area, reducing the utility for group communication. Third, again depending on the calling plan and vendor, calls can be prohibitively expensive, especially on long road trips. Finally, the use of cell phones is a squirmy topic. They are undoubtedly a boon to modern society (particularly to the wired world), but to people concerned with birds, they are a double-edged sword. Cell phones require line-of-sight connections to antennae, meaning cell towers. Cell phone towers mean bird kills, creating an uneasy contradiction in what we do and what we espouse.

Advances in small portable electronics have made more and more capabilities available to birders in the field. Whether to take advantage of these technologies is an intensely individual matter. Personally, the author loves these toys, but prefers to bird in quiet tranquility, at least most of the time.

Links to web sites pertinent to this article

Federal Communications Commission	http://www.fcc.gov/wtb/prs/Welcome.html
C. B. Radio Online	http://emporer.freeyellow.com/index.html
Information about Radio Communications in Australia	http://www.roity.com/rc/index.asp
FRS versus CB comparison	http://members.tripod.com/~jwilkers/cbvsfrs.htm
Article about FRS on Probirding.com	http://probirding.com/equip/
Motorola Talkabout	http://www.motorola.com/talkabout
GMRS Web Magazine "The E-zine for the radio-active family"	http://www.gmrsweb.com/gmrs.html

David Larson *is the Production Editor of* Bird Observer. *A confessed electronic toy addict, he has so far resisted asking the Board of Directors for an equipment budget for this column.*