Grassroots Emergency Communications Operations

Sticky Notes

GECO Newsletter
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Ready to Serve and Sustain Our Community

Happy W.A.R.D. to You!

World Amateur Radio Day 2021 celebrates the 96th Anniversary of the founding of the International Amateur Radio Union (IARU) at the 1925 International Radiotelegraph Conference in Paris. The American Radio Relay League (ARRL) is the International Secretariat of the IARU.

The International Amateur Radio Union (IARU) is the worldwide federation of national amateur radio organizations. The membership of the IARU consists of more than 160 member-societies in as many countries and separate territories. The IARU represents the interests of radio amateurs to the International Telecommunications Union (ITU, a specialized agency of the United Nations). The ITU evolved from the International Telegraph Union (1865). The current name change took place in 1934 in response the technological change. It became a specialized UN agency in 1947. The ITU promotes the shared global use of the radio spectrum, facilitates international cooperation in assigning satellite orbits, assists in developing and coordinating worldwide technical standards, and works to improve telecommunication infrastructure in the developing world.

The ITU is where changes to the band plans are discussed and decided. To represent amateur radio operators world-wide, the IARU divides the world into three regions. National amateur radio organizations coordinate with the IARU. Although there may be other national amateur radio groups in some countries, only the one recognized by the IARU can speak for you. This is why it is important to join your IARU recognized amateur radio society. US HAMs should join the ARRL. If you don't like the way they operate, work from within it to effect the changes you want. Act now. Join today!

In This Issue

Happy W.A.R.D. to You!	*1*	*Wilderness Protocol*	*5-6*
Value of HAM Volunteer$	*2-4*		

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Value of HAM Volunteer$

The recent decision of the FCC to increase amateur license fees to $35 for all applications except address changes (down from the originally proposed $50), is a slap in the face of the "public service" purpose of amateur licenses.

An ARRL news article reported:

"The FCC also disagreed with those who argued that amateur radio licensees should be exempt from fees because of their public service contribution during emergencies and disasters.

"[W]e are very much aware of these laudable and important services amateur radio licensees provide to the American public," the FCC said, but noted that specific exemptions provided under Section 8 of the so-called "Ray Baum's Act" requiring the FCC to assess the fees do not apply to amateur radio personal licenses. "Emergency communications, for example, are voluntary and are not required by our rules," the FCC noted. "As we have noted previously, '[w]hile the value of the amateur service to the public as a voluntary noncommercial communications service, particularly with respect to providing emergency communications, is one of the underlying principles of the amateur service, the amateur service is not an emergency radio service.'"

When ARRL put out the call for HAMs to voice their opinions on the proposed new fees, we responded based on our 2017, GECO posted report "$eeing the True Value of Volunteer$." It essentially showed how their "free" service is not always truly valued by the organizations they serve. However, our view did not prevail. We find it curious of how the FCC seems to lump and clump on one hand, then split and separate on the other. We understand there is the letter of the law and the spirit of the law. But these views of the law are not mutually exclusive. The fee imposition is based on "Ray Baum's Act" (MD Docket 20-270). The FCC justified the fee increase to pay for processing licenses (which in 2019 totaled 197,000 applications). That number included ALL licenses for commercial, General Mobile Radio Service (GMRS), and amateurs. ARRL pointed out the bulk of amateur license application processing is largely automated and didn't justify the $50 fee. For example, VEC (Volunteer Examiner Coordinators) do much of the data gathering and input for new amateur licenses. Also, amateurs may NOT accept renumeration or compensation for using their licenses. Commercial broadcasters and GMRS users can conduct business using their licenses, thus can gain revenue and income to offset FCC fees.

We admit we are not lawyers, but you can split hairs over technicalities of definitions (arguing about the letter of the law), or you can be vague or expansive while interpreting the spirit of the law. We reviewed the FCC definition of the amateur radio service. The table below is our summary.

FCC Regulation	Remarks
The following is from 47 CFR § 97.1 Basis and purpose (of the amateur radio service). The rules and regulations in this part are designed to provide an amateur radio service having a fundamental purpose as expressed in the following principles:	HAM radio is a diverse "hobby" with something for nearly everyone. So, while no one HAM may do all aspects of HAM radio, in times of need, you will usually find HAMs stepping up to the plate as volunteers.
(a) Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications.	It seems the FCC recognizes the value of amateurs providing emergency communications while the main purpose is a "noncommercial" radio service. However, many HAMs see emergency communications as a vital area of the hobby and prepare to do so as part of their function as amateurs.

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Editor's Note: It is interesting that the FCC recently said (regarding the amateur radio fee increase discussion), "*the amateur service is not an emergency radio service.*" Yet, in their own regulations, they enumerate specific points about "Providing Emergency Communications."

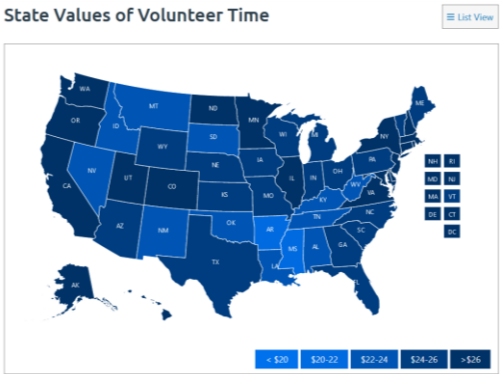
§ 97.401 Operation during a disaster.
§ 97.403 Safety of life and protection of property.
§ 97.405 Station in distress.
§ 97.407 Radio amateur civil emergency service.

This seems to clearly indicate the FCC expects some HAMs to take up the torch as a condition of getting an amateur license. Well, just as the "Terms and Conditions" check box on phone apps and software agreements, most folks may not have read through the details of Part 97-Amateur Radio Service Rules.

FCC Regulation	Remarks
(b) Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.	Many HAMs brought applied technical advances to emergency radio service (e.g., APRS, NBEMS, etc.) and hold emergency preparedness drills at no cost to the government.
(c) Encouragement and improvement of the amateur service through rules which provide for advancing skills in both the communication and technical phases of the art.	HAM radio has a track record of being the pathway for many students to careers in science, technology, engineering, and math. Others apply their HAM hobby to their jobs (e.g., emergency services, social work, etc.) ARRL has an education program designed for use in schools. This education resource costs Federal and state governments nothing.
(d) Expansion of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts.	This was very true in WWII. It saved countless hours of training and expense for the government. And HAMs today are still a valuable reservoir of trained personnel in times of need.
(e) Continuation and extension of the amateur's unique ability to enhance international goodwill.	HAM radio is a prime example of "open source" technical development. Scientists from many countries fill the annals of HAM radio history. This continues to this day at little to no cost to the Federal government.

As we said before, not every HAM does all the things mentioned in the summary table above. From where we sit, HAMs are a valuable national resource (with a proven track record) that far outweighs the need for FCC fees. We don't know how many potential and future HAMs will be driven off by the fee increases. No doubt some will chalk up the fees as a hurdle to pursuing their goals to become part of the HAM family. Personally, we feel it is a slap in the face to pay to serve for free while other FCC licensees can earn money to help pay for their fees.

In 2017, GECO published a report "$eeing the True Value of Volunteer$". When HAMs volunteer, recipient organizations have no idea of the approximate financial benefit they've received. The bottom line is getting radio operators, equipment, and specialized services free. As a result, many HAMs and HAM clubs get taken for granted.



To address this situation, some organizations have come up with a dollar value for volunteers (see map on right). But these gross "averages" don't really account for the circumstances of HAMs.

HAMs contribute their expertise, experience, and equipment in their public service volunteer efforts. If event organizers rent radio equipment, it costs them money. If they hire radio operators, it costs them money. HAMs show up with their equipment at no cost. Any wear and tear, damages,

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losses and consumable supplies are all borne by the volunteer. Transportation, food/lodging, and incidentals are usually always covered out of pocket by the operator.

As radio amateur volunteers, they may not receive remuneration or compensation for being radio operators. Thus, they are not considered employees, get no benefits, no insurance. In many cases, the event organizers have HAMs sign waivers so the organizers are not held liable for just about anything. In some cases that means injuries, accidents (up to and including death) while serving as a volunteer.

Many HAM volunteers shrug their shoulders and sign the waivers. Their purpose and commitment to HAM tradition outweighs their concerns. Besides, most are covered by their own insurance, have health insurance, life insurance (at their own expense or partly from their work). But since COVID, many may not have full-time jobs (most part-time workers get no life or medical insurance). We haven't seen a lot of data of the impact of volunteers since COVID. But since many public events served by HAMs have been cancelled, we know those HAM volunteer activities have ceased. No doubt volunteers for the COVID testing and vaccination programs has picked up. But the convergence of lost income has made volunteering even more costly (if not increasingly difficult to impossible) for many former volunteers.

HAMs should avoid using gross estimates for the hourly value of their volunteer time. Instead, they should compile their own value based on the inclusive accounting of what they bring to the table. Individual HAMs have their own value based on the composite total of what they bring to the team. Add up the worksheets from all participating HAMs. The total for your club or group should be considered as an "In-kind Match" (the economic value of any non-monetary donated contribution to the development of a project by the applicant or project co-sponsors including but not limited to labor, equipment usage, lands, land rights, facilities, or other items essential to the project.) HAMs have value! Tell it like it is!

Volunteers: HAM vs. Non-HAM		
Event Organizer	Non-HAM volunteer	HAM volunteer
Provides	Opportunity to serve	
Transportation to/from	No	No
Food/water	Sometimes	Sometimes
Tools/equipment	Sometimes	No*
Insurance (Life, medical)	No	No
Training	Sometimes	No*
*HAM volunteers are often recruited specifically for their radio operating capability.		

Possible HAM Volunteers Expenses			
Items	**Cost/basis**		
Direct Costs			
Basic	Radio / antenna / mic-headset-speakers		
	Batteries		
	Spares, adapters		
	Relevant tools/test equipment		
	First aid kit		
Optional	Tent/canopy, table/chairs		
	Generator/fuel/fire extinguisher, solar panel		
	Masts/guys/ladder		
Miscellaneous	Special gear (e.g., waterproof, cold weather, etc.)		
	Necessary supplies/consumables: paper, pens, tape, clipboards, tarps, ropes, tools, etc.		
Other Direct cost			
Time: billed at your work pay/hr.	Prep	Event coordination (in and out of group).	
		Equipment prep/testing.	
	Travel time to/from activity site.		
	Time on site.		
	Post Event	De-brief/reporting (in group).	
		Event coordination (outside group).	
		Equipment check/testing.	
Transportation	Fuel/oil.		
	Parking fees.		
	License/registration fees.		(pro-rated over time)
	Car payment.		
	Maintenance.		
Insurance	Life.		
	Medical/Dental.		
	Accidental Dismemberment/Death.		
	Car.		
	Personal property (esp. HAM gear).		
Meals/Lodging	En route.		
	Onsite.		
Miscellaneous	Equipment	Lost/replaced.	
		Damaged/repaired.	

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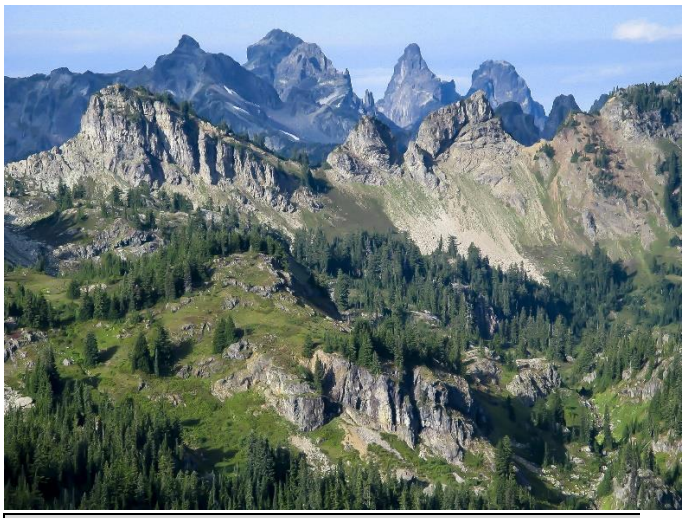
Wilderness Protocol



Have you heard of "The Wilderness Protocol?" It calls for HAMs in the wilderness (out of repeater range) to announce their presence on, and to monitor, the national calling frequencies for five minutes beginning at the top of the hour, every three hours from 7 AM to 7 PM while in the back country. A HAM in a remote location may be able to relay emergency information through another wilderness HAM who has better access to a repeater. HAMs living adjacent to wilderness areas can also monitor the frequency.

Of course, the system only works if folks are calling to other folks who are listening. [**Note:** Though originally intended for hikers, the system can be used for any emergencies.] Stations with ample power supply can monitor more often or for longer periods of time.

Upon hearing an emergency call, move to another simplex frequency to keep 146.520 MHz available for others. If you are a base station near wilderness area, monitor the band(s) to find low traffic frequencies you can use to handle the rest of the emergency call. From this point on, you use the usual emergency traffic procedure to quickly gather the necessary information. Accurate location information is critical but may be a challenge depending on the people having or reporting the incident. Keep calm and do the best you can.

Wilderness Protocol

Step 1. Pick an FM simplex frequency:

52.525 MHz	223.500 MHz	446.000 MHz
146.520 MHz: Primary Calling; Make contact; change frequency to talk.		1204.500 MHz

Step 2. Local Call/Listening Times (see table below).

Step 3. Once you make contact, switch to another frequency to talk. This leaves the calling frequency available to others who may be in need.

Calling		Listening	
Procedure	**Time**	**Time**	**Procedure**
• Announce your callsign (during calling times) as you enter a wilderness area. • Listen for distress calls (at Listening Times) while in a wilderness area. (See Listening section.)	7-7:05 AM 10-10:05 AM 1 – 1:05 PM 4 - 4:05 PM 7-7:05 PM	6:55-7:10 AM 9:55-10:10 AM 12:55 AM – 1:10 PM 3:55-4:10 PM 6:55-7:10 PM	• Monitor 5 min before/after the calling times to allow of variations in clocks. • Say your callsign 1-min before end listening period and ask for traffic.

There is a suggestion to use Long Tone Zero (aka LiTZ) for about 10 seconds to help listening stations to quickly recognize a Priority call is coming. To do this, the calling station simply keys up their radio and holds down the "Zero" DTMF tone for 10 seconds.

Of course, monitoring stations should have the relevant emergency contact information for your local emergency services, sheriff/police, search & rescue, etc. Update the emergency caller with the emergency on your actions. If local authorities take control of the incident, continue to monitor the emergency caller in case you can facilitate relaying information.

You can do all this from the comfort of your home. You don't have to sign up or register. You voluntarily participate whenever you want, it's all up to you. To learn more, click here. If you belong to a HAM club, talk about this with the members and see if others will join your effort where each person commits to a radio watch on different days. If you can't do it year-round, consider doing it for peak recreation seasons, or dates of local special events.

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Never Heard of it / Is it ever used?

We've encountered questions regarding the availability of the Wilderness Protocol and/or the lack of use. The factors affecting its use or popularity lies in the nature of all volunteer efforts and passive activities. A volunteer is just that: A person who works without pay or assumes an obligation to which he or she may or may not be interested and is largely unaccountable. It takes time to volunteer. Calling on the Wilderness Protocol frequency can be a hit or miss proposition. It all depends on what is happening in the life of the volunteer on any given day. It's highly variable.

We suggest that HAMs and clubs in the vicinity of wilderness areas, parks, and recreation areas consider establishing a public service activity to routinely maintain a Wilderness Protocol monitoring service. Prime criteria for selecting an area to cover: 1) poor cell phone service; 2) little or no repeater coverage; 3) a history of incidents where lack of communications played a role.

Next, reach out to law enforcement, emergency services, and community groups concerned with public safety and promoting local tourism. Pitch the advantage of promoting having an active amateur radio emergency monitoring service for those recreation areas fitting the criteria above. This might also be a source of possible donations for the club to help get and maintain equipment dedicated to this effort or to fund student training.

Consider reaching out to schools and other local youth organizations to partner with your HAM club. Recruit youth for HAM license training, combined with a Wilderness Protocol/EmComm "internship." HAM radio has a strong track record of leading students to STEM (Science, Technology, Engineering, Math) careers. Students can be trained and licensed as HAMs and get immediate hands-on experience on the Wilderness Protocol monitoring program. Combine this with forming volunteer roving radio trail patrols or monitoring of key trails, trailheads, and parking areas. [**Note:** Coordinate these activities with local civil and park authorities. Emphasize to radio team members their priority is personal safety, observing, and reporting. They are not law enforcement and have no official legal authority.]

At GECO, we have a slogan, "It is better to network than to not work." HAMs collaborating within the community have great potential for win-win situations. We live in times of limited budgets and growing concern over quality of education, relevance of education to jobs, community economic development and sustainability. HAMs could use a local Wilderness Protocol Monitoring effort as a multi-dimensional community service. HAMs and HAM clubs should reach out and start the discussion with their local tourism agencies, chambers of commerce, schools, business, park officials, wilderness guide services, emergency services, and search and rescue groups. Do something to put HAM radio in the spotlight in your community.

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