ARRL The national association for AMATEUR RADIO®

2018 Annual Report

Radio Communications: Skill, Service,

Celebrated inventor and entrepreneur Hiram Percy Maxim (1869-1936) created the American Radio Relay League in 1914 to help facilitate the relaying of messages via Amateur Radio. The resulting organized network of Amateur Radio operators helped send messages farther than any one station could reach at that time.

ARRL The national association for AMATEUR RADIO®

The American Radio Relay League (ARRL) is the national association for Amateur Radio in the US. Today, with over 156,800 members, ARRL is the largest organization of radio amateurs in the world. Our mission is simple:

"To advance the art, science, and enjoyment of Amateur Radio."

In 2016, ARRL revised its vision statement to more incisively state the organization's intentions for our Second Century, which began with our centennial in 2014.

ARRL's Vision Statement

As the national association for Amateur Radio in the United States, ARRL:

- Supports the awareness and growth of Amateur Radio worldwide;
- Advocates for meaningful access to radio spectrum;
- Strives for every member to get involved, get active, and get on the air;
- Encourages radio experimentation and, through its members, advances radio technology and education; and
- Organizes and trains volunteers to serve their communities by providing public service and emergency communications.

The execution of our mission is based on ARRL's Five Pillars: Public Service, Advocacy, Education, Technology, and Membership.

Left: ARRL Headquarters staff and Field Service volunteers work together to serve ARRL members and advance the art, science, and enjoyment of Amateur Radio. Right: Classroom teachers who enroll in the Teachers Institutes on Wireless Technology, offered through the ARRL Education & Technology Program, gain basic electronics knowledge by building small projects. They use their new-found knowledge back in their classrooms, while teaching STEM (science, technology, engineering, and math) topics. Opposite page: Ham radio can go anywhere you go — including to the top of a mountain or out on the ocean. Portable operating adventures are one of the most popular ham radio activities right now.

Discovery

Contents

Amateur Radio provides the most powerful wireless communications capability available to private citizens.

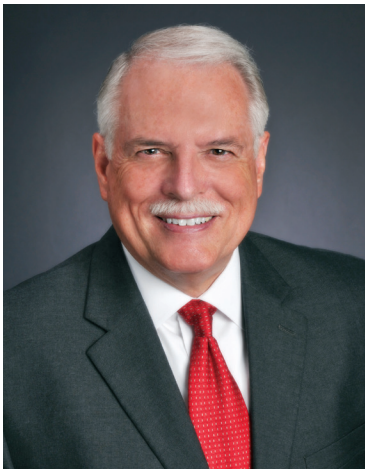
What is Amateur Radio?

Amateur Radio, also known as "ham radio," is a popular service and hobby with more than 750,000 practitioners in the US alone, and 1.95 million worldwide. The numerous activities that are possible on the Amateur Radio frequencies range from public service, to scientific experimentation, to sheer fun. There are federally licensed "hams" everywhere — in your neighborhood, in your workplace, in your schools.

The Amateur Radio Service is a core element of neighborhoods and municipalities across the United States. In times of disaster, Amateur Radio has repeatedly been the only means of communication into or out of an affected area, providing critical information to authorities at the time when it's most needed. Amateur Radio operators serve their communities proudly, voluntarily, and without compensation.

Radio amateurs all share a basic knowledge of radio technology and operating principles, and pass an examination from the Federal Communications Commission (FCC) in order to earn a license that enables them to operate on the Amateur Radio "bands."

Right: When people think of Amateur Radio public service, they often think of hams providing communications services as part of a disaster or emergency response. These services also extend to community events such as road races and parades, and practical applications such as weather spotting.



A Message From the President

2018 was a year of change, both in the Amateur Radio community, and at ARRL. The paradigm shift that I wrote about last year is here, and ARRL has begun shifting to meet the challenges.

In last year's Annual Report, I talked about what I call the "new generation ham" — people who engage with Amateur Radio in a very different way than hams of my generation. Through extensive research, we've learned that they come to Amateur Radio hoping to learn how to use it in aid of their communities, and for enhancing the fun they're already having while camping, hiking, or doing other outdoor activities. We've also learned that they've been discouraged by the difficulty of finding information and help that would allow them to get involved.

In the past year, ARRL has turned its attention toward those hams, beginning to develop the programs and services that this new generation has expressed interest in. In this year's report, you'll read about ARRL's new Lifelong Learning department, which will create learning materials for Amateur Radio enthusiasts at all levels of knowledge — but especially for the beginners, who have told ARRL that they need instruction and guidance in order to become active in Amateur Radio.

In addition to starting work on the Lifelong Learning initiative, in late February 2018 ARRL submitted a Petition asking the FCC to expand certain HF privileges for Technician licensees, in the hope of making Amateur Radio more appealing to newcomers and to adapt to the new generation ham. The proposal was based on recommendations put forth by the ARRL Board of Directors' Entry-Level License Committee, which conducted membership surveys in 2016 and 2017 that garnered more than 8,000 responses, and gave us a clearer picture of Amateur Radio's place in the advanced technological demographic that includes people younger than age 30.

Even as these ARRL initiatives designed for "new generation hams" are getting off the ground, the Headquarters staff and Board of Directors continue to serve the valued "classic" ham members that have stayed with ARRL for decades, and you'll hear about that in this year's Annual Report as well. ARRL continues to fight for our spectrum allocations and against the mounting noise floor. We run contests and events to keep ham skills sharp and offer some fun, and we publish books and *QST* articles on technical and operating topics that hams can use.

The fact that there is a "new" generation and a "classic" generation is a testament to the versatility and breadth of what Amateur Radio has to offer to its practitioners, and to the world. Regardless of which generation we are part of, we share an interest in the magic of Amateur Radio, its ability to bridge distances and create connections.

I'm excited about the new ways in which the organization is preparing to fulfill its mission to advance the art, science, and enjoyment of Amateur Radio. I hope you are, too.

73,

Rick Roderick, K5UR
President

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Amateur Radio: Bridging distances and creating connections

Annual Report of the Chief Executive Officer

2018 has seen significant change in the leadership at ARRL, with three CEOs. As Isaac Newton said, "If I have seen further it is by standing on the shoulders of giants." I'd like to thank both Tom Gallagher, NY2RF, and Barry Shelley, N1VXY, for positioning ARRL at a place where I can help the organization grow in the future.

We are at a crossroads and we need to look seriously at what we are and what we do. For ARRL to remain relevant to Amateur Radio, it must evolve. That evolution, while swift, can't be haphazard. Instead, there must be a comprehensive vision of what ARRL is as a community, and what we wish to be in the future.

I see ARRL as a membership association, a business, and a public charity. As CEO, I intend to strengthen all three aspects. And all three must remain in balance for ARRL to function effectively. I've outlined my vison in three "Second Century" columns in *QST* — in the January 2019 issue, I talked about how I see ARRL; in February 2019, I talked about the spectrum of hams; and in March 2019, I discussed moving toward a more secure future. Let me present that vison here.

ARRL is a membership association. We are composed of approximately 157,000 interested people who chose to band together. But membership is not about getting hams to join ARRL, it is about engaging members and having them engage others.

We have some data that tells us where segments of ARRL members and nonmember amateurs fall. Everyone's pursuit of Amateur Radio falls somewhere along the spectrum between developing new technology and using existing technology to communicate, and along the spectrum between Amateur Radio as a hobby and Amateur Radio as a service.

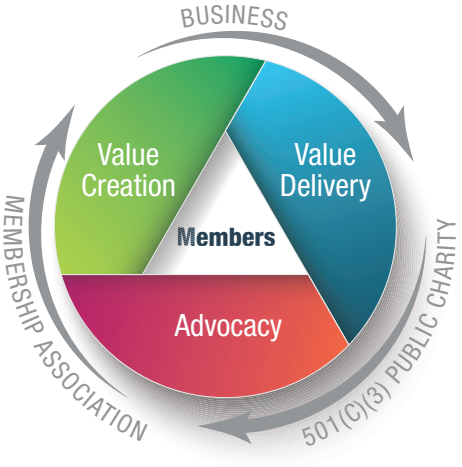
Every ham can be aligned as a dot on that grid, or possibly several dots on that grid. But people are not static. Interests and passions change over time. Every ham is likely a on path through that grid.

ARRL needs to develop products and services for all these segments. One size no longer fits all. Today we can customize our engagement with members, and members expect this.

ARRL is a business. We are a non-profit business. We need to keep the business strong.

ARRL is not just *QST*, *The ARRL Handbook*, the DXCC program, or the VEC program. We can't allow ourselves to continue to think within those traditional parameters. To be proactive, we need to cut costs and find new sources of income now.

If we abstract from our current lines of operations and consider our core purpose as defined in our Articles of Association, we are members, volunteers, and staff creating information and building relationships — creating value; disseminating information and building organizations — using value; and advocating to advance the art, science, and enjoyment of Amateur Radio.



> We are about relationships and information.
> We are about creating, curating, and
> disseminating information about Amateur Radio.

ARRL is a public charity under section 501(c)(3) of the IRS code. ARRL has received its tax-exempt status because we exist for the public good. The first four of our five pillars — Public Service, Advocacy, Education, and Technology — directly support our core purpose. The fifth pillar, Membership, is a key feature in delivering our core purpose.

Into the future, ARRL must be forward looking in the ways that it thinks about Amateur Radio. There are startups innovating in our space, whether that is publishing, membership, or advocacy. We must be ahead of them. We must invest in the future. We must invest in the future while sustaining current operations and supporting our members.

73,

Howard Michel, WB2ITX
Chief Executive Officer

The 2018 ARRL International

In late 2017, ARRL announced that 2018 would be the year of the ARRL International Grid Chase, an on-air event that would focus on contacting as many stations in as many Maidenhead grid squares as possible. For the uninitiated, Maidenhead grid squares are 1° latitude × 2° longitude squares, each with a unique alphanumeric designation — for example, ARRL Headquarters is in grid square FN31.

This imaginary grid overlies the entire world, dividing the globe into as sort of bingo card with thousands of squares. For years, the grid has traditionally been the province of hams that enjoy operating on frequencies at VHF and higher.

The ARRL International Grid Chase introduced grid squares to all ham radio operators, regardless of location, license class, operating mode, or band (except 60 meters), for a year-long challenge. In order for contacts to count toward Grid Chase totals, they had to be uploaded to ARRL's Logbook of The World (LoTW) for confirmation.

The event started at 0000 UTC January 1, 2018, as fireworks went off over Greenwich, England. Just 3 weeks into the event, stations in the top 10 on the online leaderboard had contacted hundreds of grid squares. By the end of January, the Grid Chase boasted more than 20,000 participants, and the event's social media accounts were buzzing. An early revelation involved the widespread use of the popular digital mode FT8, which routinely includes a station's grid locator information in each contact's exchange, making it a perfect mode for use in the Grid Chase.

By March, the event reached a record high of more than 30,500 uploads to Logbook of The World. Monthly totals hovered there during the spring and summer while the good propagation conditions lasted.

John Rabold, KS6M, operated from alongside the lightly traveled paved road leading to the Ubehebe Crater in grid square DM17, near Furnace Creek, California.

The EL58hx activation had this beautiful view of the Mississippi River at the Burrwood cut, 20 miles south of Venice, Louisiana — an area that locals call "the end of the world." Wyatt Dirks's, ACØRA, 6-meter antenna is in the foreground, along with the station tent. The team's sleeping tent is in the background, facing the river. Wyatt, ACØRA, gave out the grid on 6 meters, making 237 contacts — 140 of which were on FT8. Clayton, W5PFG, made 200 satellite contacts, and obtained another Satellite VUCC award during the activation.

Amy Haptonstall, AG7GP, and Robin Haptonstall, N7HAP, activated rare grid square DN01 at Sheldon National Wildlife Refuge in the northwestern Nevada desert from September 30 to October 1. They sited their operation in the high desert, at an elevation of about 5,760 feet, and despite some equipment difficulties, made more than 100 contacts on 20 and 40 meters.

Grid Chase

In June, the highly successful Baker Island Dateline DX Association DXpedition KH1/KH7Z (June 27 – July 6) handed out rare grid square AJ10 to 16,000 unique stations over the course of more than 60,000 contacts, marking the highlight of a summer filled with many exciting grid-chasing operations and events worldwide. QSO parties, DXpeditions, and contests fueled the event through the autumn. The event ended with an exciting flurry of last-minute contacts — and even some last-minute unique grids — at 2359 UTC on December 31, 2018.

In the end, the 2018 International Grid Chase racked up 334,738 LoTW uploads, for contacts that occurred on bands from 630 meters all the way up through the millimeter bands. ARRL offered detailed summaries of activity and results at https://igc.arrl.org/index.php.

There was also a popular Facebook group, www.facebook.com/groups/IGC2018, where Grid Chase participants stayed in touch, sharing tips and photos, discussing issues, asking questions, and connecting with friends around the world. Perhaps the most valuable aspect of the Facebook group was the ability to alert fellow chasers to upcoming grid square activations.

We hope participants continue to get on the air and enjoy all that the bands and modes have to offer, and share the hobby with newcomers.

Background photo: The K8B special event mounted an operation at Brockway Mountain in the rare grid of EN67 in early September. The only land in this mostly water grid in Lake Superior is the tip of the Keweenaw Peninsula. The team of Dan Brandner, N9DJB; Matt Okeson-Harlow, NM9O; Barry Arneson, K8SD; Thomas Baden, AC9BJ, and Troy Faulkner, KB9AZZ, operated from a perfect high point that offered a view of the horizon in all directions. K8B made more than 650 contacts on HF and VHF.

In early March, ARRL Dakota Division Director Matt Holden, KØBBC; Chris Drummond, W6HFP (pictured); former ARRL COO Harold Kramer, WJ1B, and Paul Gacek, W6PNG, went to Guayabo, Costa Rica to be on the air as TI/WJ1B for the ARRL DX — Phone Contest. Their operation doubled as an activation of grid square EK70.

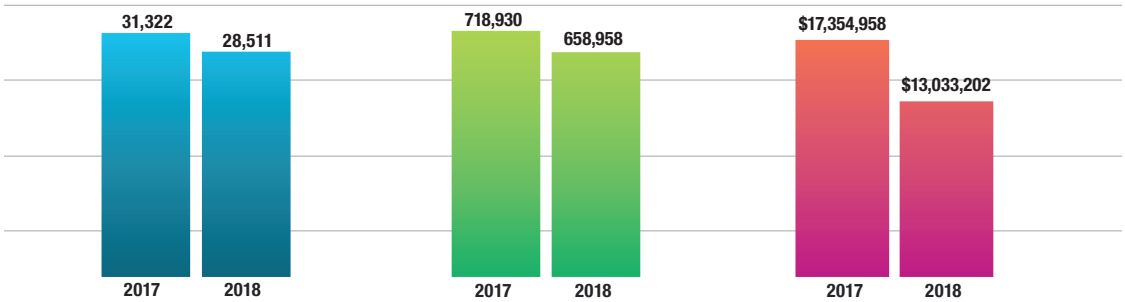
Kent O'Sell, K7CAR, activated DM25 near Los Angeles, California and was rewarded with a rainbow!

Veteran portable operator Jerry Clement, VE6AB, who also appears on the cover of this report, made good use of his setup during the Grid Chase.

The Year in Review

Emergency Preparedness

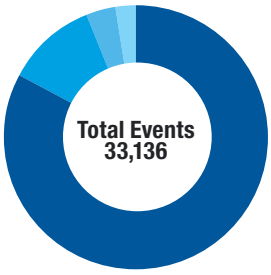
The Amateur Radio Service is most well-known for providing communications services at times when other methods are inoperable, through ARRL's Amateur Radio Emergency Service (ARES). ARES activity decreased slightly in 2018, after seeing an increase in 2017 — possibly due to 2017's extremely difficult Atlantic Hurricane Season.



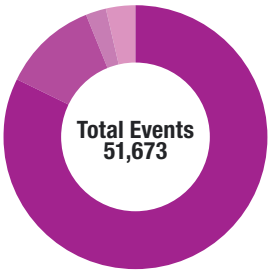
Total ARES Members
Active in 50 states and territories

Total Volunteer Hours

Volunteer Value
$19 x Total Volunteer Hours
(The hourly value of volunteer time is determined by Independent Sector, calculated at the time of this report. This figure is a national average.)



2017 ARES Events
- Drills, Training, Test Events
- Public Service Events
- Emergency Operations Events
- Other Events



2018 ARES Events
- Drills, Training, Test Events
- Public Service Events
- Emergency Operations Events
- Other Events

ARRL Puerto Rico Section Manager Oscar Resto, KP4RF (at left), and ARRL Virgin Islands Section Manager Fred Kleber, K9VV (second from right), accepted the 2018 International Humanitarian Award from the ARRL Board of Directors, on behalf of the Amateur Radio populations of Puerto Rico and the Virgin Islands for their work in the relief and recovery efforts necessary after the 2017 hurricane season in the Caribbean. The award was presented at the 2018 Dayton Hamvention in May, by ARRL President Rick Roderick, K5UR (second from left), and ARRL Southeastern Division Director Greg Sarratt, W4OZK (at right).

ARES Transitioning to New Online Reporting System

The Amateur Radio Emergency Service (ARES) has implemented an online system called *ARES Connect*, a volunteer management, communications, and reporting system that allows information to be logged by ARES members and managed through the ARRL Field Organization. *ARES Connect* covers event signup, reporting, and roster management, and does not change how ARES operates when serving a partner entity.

The *ARES Connect* system allows Emergency Coordinators, District Emergency Coordinators, and Section Emergency Coordinators to create events that ARES participants may sign up for. ARES participants will have their own accounts in the system, and be able to report their volunteer hours. Beta testing of *ARES Connect* began in March 2018, in four ARRL Sections with large ARES organizations, resulting in feedback that led to changes and enhancements in the system. The ARRL Headquarters staff has been trained in *ARES Connect* administration, with group registration under way and IDs assigned.

ARES Connect is one element in the new ARES Plan, which was adopted at the January 2019 Board of Directors meeting. Under the new ARES Plan, ARES training also is due for enhancement. Goals include aligning the ARES organizational structure with the National Incident Management System (NIMS) and Incident Command System (ICS). Emergency Coordinators (ECs) will continue to lead local ARES teams during an incident, with support from District and Section Emergency Coordinators.

Changes would encompass additional mandatory training to include ARRL Emergency Communications courses and the now-standard FEMA NIMS/ICS courses IS-100, 200, 700, 800, with IS-300 and 400 for higher levels. Training levels attained would dovetail with three new levels of ARES participation.

The proposed updates to ARES will allow for the implementation of a policy of Best Practices and Continued Improvement. With these guiding concepts in place, ARES can become a more flexible program that can adapt to meet emerging communications needs.

ARRL Renews Memorandum of Understanding with SATERN

On May 18, ARRL and The Salvation Army Team Emergency Radio Network (SATERN) renewed the Memorandum of Understanding (MoU) between the two organizations that spells out how they will work together in disaster and emergency responses. ARRL President Rick Roderick, K5UR, signed the MoU on behalf of ARRL. SATERN National Liaison Bill Feist, WB8BZH, represented SATERN at the signing and delivered a copy of the MoU already signed by The Salvation Army. ARRL and SATERN have enjoyed a formal working relationship since 1976.

The MoU defines the partnership between ARRL and SATERN and The Salvation Army, in which ARRL and SATERN agree to work together toward common goals, particularly in disaster response. The MoU also opens the possibility for sharing resources.

ARRL and SATERN also have agreed to coordinate their disaster response activities, to eliminate duplication of effort. The two organizations mounted an effective and coordinated Amateur Radio response in Puerto Rico and the US Virgin Islands during the 2017 Atlantic Hurricane Season.

ARRL Board Adopts Volunteer Monitoring Program

At its July 2018 meeting, the ARRL Board of Directors adopted the recommendations of the Official Observer Program Study Committee, to retire the venerable Official Observer (OO) Program and institute the Volunteer Monitoring (VM) Program. Under the terms of the new program, current Official Observers will be invited to apply for appointment as Volunteer Monitors. The Board expressed its appreciation for the OOs and their dedicated volunteer service over the years.

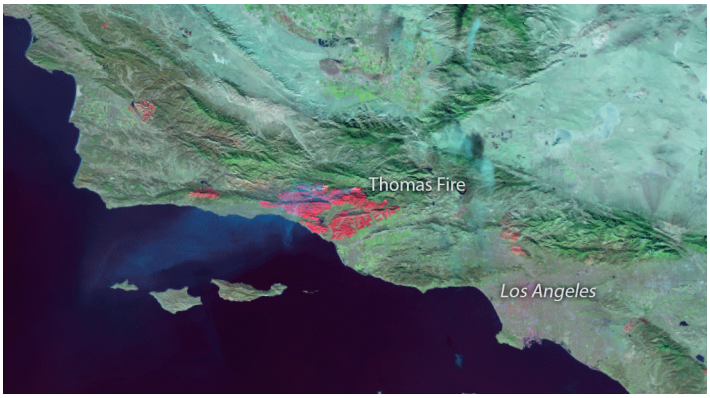
The implementation of the Volunteer Monitoring Program, which is expected to re-energize enforcement efforts on the Amateur Radio bands, was undertaken at the request of the FCC in the wake of several FCC regional office closures and a reduction in field staff. Coordination of cases and evidence gathering would become the responsibility of ARRL Headquarters staff, while the FCC will retain the responsibility for final decisions regarding action in specific cases.

The Volunteer Monitoring Program will be administered by a dedicated Headquarters staff member or an independent contractor working under the direction of ARRL Headquarters.

Preliminary plans include up to five Volunteer Monitors per ARRL Section, and up to 250 Volunteer Monitors overall. Volunteer Monitor accreditation would be limited to a 3-year term, renewable by satisfying requirements necessary to ensure competency.

Amateur Radio Responds to Several California Wildfires

Santa Barbara Club Assists the Response to the Thomas Fire



Burn scars from the massive Thomas Fire in southern California. This image was created by combining three of the NOAA/NASA Suomi NPP satellite's high-resolution thermal and visible channels from the VIIRS sensor (SVI 4,2,1). Areas of land that are hotter in temperature due to an active fire or a burn scar appear red in the imagery. [NOAA NESDIS photo]

Santa Barbara Amateur Radio Club (SBARC) members kept a close watch on the Thomas Fire that raged from early December 2017 to mid-January 2018. Using a variety of the club's analog and digital Amateur Radio assets, radio operators were able to observe firefighting efforts first hand and pass along immediate information, often before it was reported by official sources or local news media. SBARC operates five communication sites in Santa Barbara County, which use Automatic Dependent Surveillance-Broadcast (ADS-B) receivers that

are connected via a combination of amateur microwave IP links and mesh networking. "[They] were used to track and monitor airborne firefighting activities," said Levi Maaia, K6LCM, co-chair of SBARC's Telecommunications Services Committee.

Starting in mid-December, a round-the-clock emergency net convened on 2 meters, as commercial power for much of Santa Barbara County was cut and the fire descended on residential communities in Santa Barbara County, prompting evacuations. With repeaters on generator power and many operators running on battery power, net traffic consisted of official information, including evacuation orders, live reports on the rapidly approaching fire line from operators who remained inside the mandatory evacuation area, related traffic about firefighting efforts, and wind and weather conditions. SBARC volunteers set up an ad hoc remote receiving station to stream live fire ground and air communications audio over the internet and mesh network.

"Amateur stations without power, cell phone, or internet access could be kept informed of important information including evacuation orders, via the Amateur Radio net," Maaia explained.

The largest in modern California history, the Thomas Fire caused devastating losses in Ventura and Santa Barbara counties. In Ventura County, the Thomas Fire damaged or destroyed some Amateur Radio resources normally available to provide emergency communication. An Amateur Radio TV camera caught the first images of the Thomas Fire on December 4.

ARES Volunteers from Multiple Sections Assist the Carr Fire Response

Amateur Radio Emergency Service® (ARES®) volunteers from multiple ARRL Sections pitched in to provide or support communication during the catastrophic Carr Fire, which burned from July 23 – August 30, 2018. The fire claimed eight lives, destroyed more than 1,600 buildings, and burned 229,651 acres, forcing countless residents to evacuate.

On August 5, the Shasta-Tehama ARES team brought its communications trailer to Trinity County to support a shelter in Weaverville opened for evacuees, ARRL Sacramento Valley Section Emergency Coordinator (SEC) Greg Kruckewitt, KG6SJT, said.

Bill Johnson, AI6DE, at the Simpson Shelter in Redding, CA.

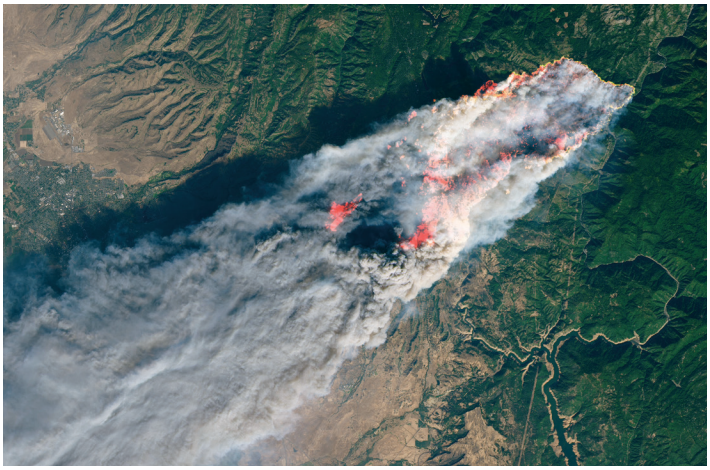
"This relieved the Sacramento County ARES volunteers who had been up there for several days," Kruckewitt said, adding that communications at the shelter were important, as power and cell phone coverage was often spotty, with power going off for hours at a time. At one point, more than a dozen ARES volunteers from Shasta, Sacramento, Butte, Placer, Trinity, and El Dorado counties were working at shelters opened in the wake of the Carr Fire.

Sacramento Valley ARES member Michael Joseph, KK6ZGB, served as the liaison at the Red Cross Gold County Region Disaster Operations Center (DOC) in Sacramento, Kruckewitt noted, adding that Joseph had been in the DOC since the fire started.

Kruckewitt said *Winlink* was the go-to mode, as fire damaged several repeaters and no repeater path exists to the Gold County Region of the Red Cross in Sacramento. ARES teams in other California Sections remained on standby in case they were needed.

The last ARES volunteers deployed to support an American Red Cross shelter stood down on August 7. Other shelter communicators deployed earlier remained on duty for 10 days.

Five Sacramento Valley ARES Groups Respond to the Camp Fire



On November 8, 2018, the Camp Fire erupted 90 miles north of Sacramento, California, at around 6:30 a.m. PST. By 8:00 p.m., it had burned 20,000 acres. As of 10 a.m. Pacific Standard Time on November 9, the fire had consumed 70,000 acres of land and was 5% contained. [NASA photo]

In Butte County, in northern California, the Camp Fire, the state's deadliest wildfire, triggered a call-up of ARES members for communication support. A small wildfire that started on November 8, 2018, in a mountainous area of Butte County quickly grew, due to high winds. Eventually more than 25,000 people were evacuated. The uncontrolled wildfire eventually consumed the town of Paradise, a town of some 27,000 residents. As multiple shelters opened to assist evacuees, five Sacramento Valley ARES groups were called out to support communication between the Red Cross Disaster Operations Center (DOC) and the shelters.

Utilizing mutual assistance, more than 20 ARES members from five ARES groups supported the shelters. ARES members were also tasked by the Red Cross to shadow Red Cross delivery vehicles to provide communication in the mountain areas to the shelters.

Sacramento Valley ARES volunteer Neil Bossard, N6CNY, on an activation for the Camp Fire. [Greg Kruckewitt, KG6SJT, photo]

ARES communication at the shelters was carried out using voice, *Winlink*, and email to pass shelter counts and tactical messages between the shelter and the Red Cross Disaster Operations Center and California Office of Emergency Services. The Red Cross supported ARES at the shelters with hot spots and backup radios.

Working 12-hour shifts, Sacramento Valley Section District Emergency Coordinator 3 Michael Joseph, KK6GZB, staffed the Red Cross radio station as net control for the DOC, passing messages and tracking ARES personnel. Sacramento ARES members also provided coverage.

Los Angeles Amateur Radio Operators Assist in the Woolsey Fire Response

The Woolsey Fire that swept through the westernmost portion of Los Angeles County, including Malibu, and the easternmost area of Ventura County in the ARRL Santa Barbara Section, required the evacuation of more than 200,000 Los Angeles County residents -- an unprecedented number in recent decades. Evacuees included several celebrities, several of whom lost homes in the fire.

"[G]overnmental radio systems used by fire and sheriff held up well, even though cell phone and internet service went out in many fire areas because of burned utility poles," said Los Angeles Section Manager Diana Feinberg, AI6DF. "Evacuees went to areas where cell phone service was generally available."

Feinberg said Los Angeles ARES (ARES LAX) had not been activated because no county hospitals were in the affected area and no hospital outside the fire zone was in danger of losing communication. She added, though, that a sizable team of ARES LAX operators organized by LAX-Northwest District Emergency Coordinator Roozy Moabery, W1EH, did extensive logistics work over the November 10 – 11 weekend at a major drop-off site in the San Fernando Valley for evacuee supplies. ARES team members worked with other volunteers to accept nearly 10 tons of pet food, plus thousands of boxes of toiletry and food items.

On the air for the Woolsey Fire, both the Los Angeles County Disaster Communications Service (DCS) — Amateur Radio volunteers overseen by the Sheriff's Department — and the City of Los Angeles Fire Department Auxiliary Communication Service (ACS) operated nets and monitored their respective frequencies. "The DCS group at Lost Hills Sheriff Station covers most of the Los Angeles County areas affected by the Woolsey Fire and communicated with organized amateurs in the cities of Calabasas, Agoura Hills, Hidden Hills, Malibu, Westlake Village, and unincorporated mountain areas when not affected by respective mandatory evacuation orders," Feinberg said. "The City of Los Angeles' ACS group was involved when the city's West Hills neighborhood in the San Fernando Valley became the fire's northeastern front, forcing about half of the West Hills community to evacuate." Santa Barbara Section Manager John Kitchens, NS6X, told ARRL that Ventura County ACS (ARES) supported evacuation centers and the Red Cross, in the Santa Barbara Section. Feinberg said ACS members also delivered food and water supplies to LAFD firefighters and performed fire patrols.

The ARRL Headquarters Emergency Response Team activated on September 12, as the storm continued to close in on the southeastern US coast.

ARRL staged HF and VHF/UHF equipment in the Maryland/Virginia area for deployment locally or farther down the coast.

The Hurricane Watch Net (HWN) activated on Thursday, September 13 to track the approach of Hurricane Florence and shut down its activation for 38 hours, shortly after the storm made landfall.

HWN Assistant Manager Stan Broadway, N8BHL, said nearly 200 stations checked in, and the net took in approximately twice that number of reports, funneling important information via WX4NHC at the National Hurricane Center (NHC). "Many were not at severe levels, but all 'ground truth' [reports] assist in plotting the activity of the storm," Broadway explained.

The Salvation Army Team Emergency Network (SATERN) activated on September 14 and 15. The net's primary mission was the receipt and delivery of outbound health-and-welfare messages from affected areas.

On September 17, ARRL requested a 30-day waiver of §97.307(f) of the FCC's Amateur Service rules to permit the use of PACTOR 4 digital mode for Amateur Radio communication within the continental US related to Hurricane Florence relief.

§97.307(f) of the Commission's Rules limits the digital data emissions of amateur stations operating below 28 MHz to a symbol rate not to exceed 300 baud, and in the 10-meter band (28.0 – 28.3 MHz) to a symbol rate not to exceed 1,200 baud, thus precluding the use of PACTOR 4, a data protocol that permits relatively high-speed data transmission in the HF bands. The protocol was used to great advantage, pursuant to FCC temporary waivers, in Hurricane Maria relief efforts in 2017.

ARRL South Carolina Section Emergency Coordinator Billy Irwin, K9OH, noted that South Carolina was "fully activated," and that he had coordinated regularly with the state Emergency Management Division. Operators initially served 12-hour shifts at the South Carolina Emergency Management Division and moved to 24-hour coverage as the storm intensified. Two operators were deployed to Berkeley County to assist with shelter operations at the request of the Emergency Coordinator there.

ARES District Emergency Coordinator EMEA Area 3 Earl Dean, W4ESD, said operators at the State Emergency Operations Center

Amateur Radio Response To 2018's Two Major Hurricanes

Hurricane Florence, August 31 – September 17

Hurricane Florence dumped historic amounts of rain, leaving much of the Carolinas inundated with dangerous, overwhelming flooding that extended into portions of Virginia and West Virginia.

ARRL HQ provided support to the ARRL Field Organization and ARES by shipping seven Ham Aid kits to South Carolina, by way of Georgia, on September 11 to assist with emergency preparedness needs in advance of Hurricane Florence. These kits were the same ones that ARRL/American Red Cross volunteers took to Puerto Rico in 2017 to assist with disaster communications following Hurricane Maria.

This satellite image shows Hurricane Florence's well-defined eye and outermost cloud bands beginning to approach the Outer Banks island group of North Carolina at 10:45 a.m. ET on September 12, 2018. [NOAA photo]

(SEOC) kept in contact with field volunteers in Marion and Dillon counties, after conventional telecommunications failed there. "We were able to deploy assets and personnel, thanks to our volunteers who managed communications between these areas and coordinated with the appropriate agencies," Dean said.

Gordon Mooneyhan, W4EGM, Public Information Officer (PIO) for the Grand Strand Amateur Radio Club (GSARC), said radio amateurs set up and managed organized communication networks to assist local government and emergency agencies, as well as non-commercial health-and-welfare messaging for residents affected by the disaster, to let family members outside the affected area know they are okay.

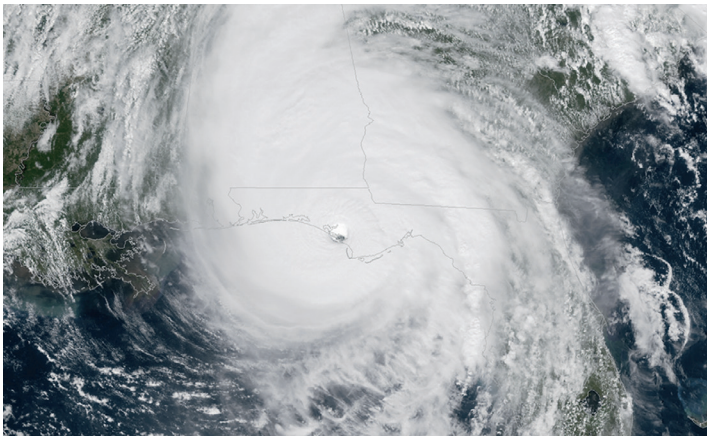
By September 20, 2018, conventional telecommunications were starting to return to normal in some communities affected by Hurricane Florence, but the long-gone storm had set up others for persistent and record-breaking flooding, primarily in eastern North Carolina and along several of the state's rivers. The storm, which made landfall near Wilmington, North Carolina, primarily affected the Carolinas, Georgia, and Virginia.

"Things are back to normal communication status, and demobilization is occurring for folks deployed," Billy Irwin, K9OH, said on September 19. At mid-week, the FCC reported that nearly all cellular service had been restored in South Carolina.

ARES volunteers from several South Carolina counties had pitched in to support emergency communication in the face of power and telecommunication outages and heavy rainfall. ARES Richland County Emergency Coordinator Ronnie Livingston, W4RWL, said volunteers in his county staffed the county Emergency Operations Center (EOC) and Red Cross. operators at the State Emergency Operations Center (SEOC) kept in contact with field volunteers in Marion and Dillon counties after conventional telecommunications failed there.

In North Carolina, storm surge had caused flooding in many communities. Ham radio volunteers responded in counties along the coast, including Wilmington, Topsail Beach, Jacksonville, and Morehead City, staffing both EOCs and shelters. Farther inland, numerous ARES teams activated in the face of river flooding to address a combination of sheltering needs for local residents and evacuees. Communication throughout the state has been supplemented by neighborhood-based operators, who reported emergencies to county EOCs. The FCC reported on September 19 that nearly one-third of cell service was out in Columbus, Pender, and Onslow counties. The storm also took out several broadcast outlets in the state.

Hurricane Michael, October 7 – 11



A satellite image of Hurricane Michael making landfall at Mexico Beach, Florida, 1:30 a.m. EDT on October 10, 2018. [NOAA photo]

Hurricane Michael was the third-most intense storm to make landfall on the United States, the strongest hurricane to ever make landfall in the Florida panhandle, as well as the fourth-strongest hurricane in the United States mainland by wind speed.

The ARRL Headquarters Emergency Response Team monitored the storm's status as it headed for landfall on the Gulf Coast and made updates to ARRL Field Organization leaders in the Northern Florida and Alabama Sections. ARES teams in the Northern Florida Section went on alert, and some activated to support emergency communication before and during the storm.

Miller Norton, W4EMN, the Communications Watch Officer at the Duval County Emergency Operations Center (EOC) in Jacksonville, Florida, monitored SARnet — a UHF-linked repeater network in Florida — when he heard an urgent call for help that needed to be sent to the State EOC in Tallahassee. All other forms of communication were out, but Norton was able to relay the message via Amateur Radio. He also passed messages and requests from the Jackson County EOC to the American Red Cross. Norton said officials in Tallahassee and Jackson County were both "incredibly grateful" for the way the SARnet system functioned during the weather emergency.

Jackson County Emergency Coordinator Ricky Whittington, KD4AST, deployed to the county EOC in Marianna, which was hit by the center of the storm at 140 MPH. "[The] county maintenance building across the road from the EOC was picked up and slammed into the north side and over the roof of the EOC just prior to the eye passing over," Whittington said. The internet failed, as did cell service for a while. Hams passed material and resource orders to the State EOC via HF and SARnet.

On October 11, Whittington reported "total devastation of Bay, Jackson, and Gulf counties," with loss of electrical power and water service, in addition to damage in Franklin, Holmes, and Leon counties, adding, "[The] mode of communications after the eye came across was ham radio, until we got minimal cell service..."

ARES teams in Escambia, Alachua, Gilchrist, Citrus, Duval, and Clay counties reported activating or monitoring for Hurricane Michael.

In the days after the storm, Northern Florida ARES sought volunteers to deploy for up to a week, to help resolve serious communication issues in the Florida panhandle. Hurricane Michael left the telecommunications infrastructure ravaged, and storm victims unable to communicate with family members outside the region. The Florida State Emergency Operations Center (EOC) is hoping to recruit eight operators. Section Emergency Coordinator Karl Martin, KG4HBN, said ARES needs as many volunteers as possible.

Clay County ARES Assistant Emergency Coordinator (AEC) and Public Information Officer Scott Roberts, KK4ECR, was cited in a news media account that several counties with damage to critical infrastructure remained without any form of communication, with Amateur Radio remaining as the only method of communication between shelters and emergency management.

Following the storm, David Morris, K4AW, The American Red Cross Communications Manager for the Hurricane Michael response, sent a letter to Karl Martin, KG4HBN, to acknowledge Amateur Radio's contribution, saying, "I wish to acknowledge and congratulate each of you and the many amateurs who manned the stations at the Red Cross shelters and District Operations during Hurricane Michael…I hope you will pass along to your associates our heartfelt appreciation for an outstanding job. The professionalism and dedication by each operator was truly inspiring."

Morris called Amateur Radio operators, "unsung heroes spending countless hours in the field to help alleviate human suffering."

East Coast Radio Amateurs Track Major Winter Storms

WX1BOX, the Amateur Radio station at the National Weather Service (NWS) office in Taunton, Massachusetts, joined numerous SKYWARN nets across New England in activating for an early-January 2018 nor'easter that brought significant coastal flooding, damaging winds, and heavy snow accumulations to the region. The eastern coast of New England experienced high snowfall rates of 2 to 3 inches per hour, with accumulation of 8 to 18 inches, whiteout conditions, and even "thunder snow." A dramatic drop in barometric pressure generated a so-called "bomb cyclone" with wind gusts as high as 76 MPH.

WX1BOX was active for 16.5 hours, supporting data gathering for the NWS. Local and state emergency managers, broadcast media, and other agencies also used these reports for situational awareness during the storm and to assess the need for any later recovery efforts.

Cape Cod Amateur Radio Emergency Service (ARES) was active at the Barnstable County Mutual Aid Coordination Center (MACC), convening ARES/SKYWARN nets and providing wind damage and coastal flood reports from their region.

The Peabody Emergency Operations Center (EOC) was active on the Massachusetts North Shore, and the EOC served as a net control point for SKYWARN nets in the North Shore area. Coastal flooding reports from the North Shore and surrounding areas and snowfall totals were relayed to WX1BOX and other agencies from their nets.

At the Eastern Massachusetts ARES section level, ARES went on standby for agency needs or to support any local ARES activations. Local nets were active on approximately 10 different repeaters across the NWS Taunton coverage area. The New England Echolink/IRLP reflector system was also active, with reporting stations from across New England, supplemented by a tie-in to the conference node typically used by the VoIP Hurricane Net.

An offer of assistance came from members of Illinois SKYWARN, including a team member who handles SKYWARN for WX9LOT, the Amateur Radio station at the NWS Chicago/Romeoville office.

Coastal flood damage in Marblehead, Massachusetts from the nor'easter that hit on March 2 and 3, 2018. [Jim Palmer, KB1KQW, photo]

Maryland Amateur Radio Emergency Service Teams Activate for Flooding

On May 27, ARES volunteers in the Maryland-DC Section activated in the wake of regional flash flooding from Tropical Storm Alberto, a storm that lasted from May 25 – 31, 2018. Hit especially hard was Ellicott City, where vehicles were washed away by fast-moving flood waters more than 10 feet deep.

Section leadership asked radio amateurs in the affected areas to check on the health and welfare of their neighbors. ARRL Assistant Maryland-DC Section Manager and Public Information Coordinator Ken Reid, KG4USN, said high-water rescues were needed in Perry Hall and Patapsco State Park.

MDC Section Manager Marty Pittinger, KB3MXM, activated ARES in eight central Maryland counties at 6:30 PM EDT, and 15 minutes later, more than 40 ARES volunteers reported to their respective 2-meter nets in five counties. Amateur Radio volunteers in the MDC Section provided additional situational awareness, and Pittinger interfaced with Atlantic Division leadership, Maryland Section Emergency Coordinator Jim Montgomery, WB3KAS, and state and local authorities.

Conventional telecommunications continued to function throughout the heavy weather, which caused road closures and power and natural gas outages. The MDC ARES volunteers remained on duty until 10:15 PM on May 28. During the activation, radio amateurs made use of VHF, UHF, and HF capabilities, as well as Voice over Internet Protocol (VoIP) modes.

"This demonstrated a 'virtual EOC' approach to storm monitoring utilizing out-of-area resources to support a storm incident with local personnel providing local perspective," Eastern Massachusetts Assistant Section Emergency Coordinator Rob Macedo, KD1CY, said.

WX1BOX and various ARES groups had their hands full during March as well, as the northeastern US was hit with three nor'easters that brought severe weather conditions and a lot of snow. The storms caused the Cape Cod ARES team to extend activations for SKYWARN, WX1BOX, and shelter operations.

The first in the trio of nor'easters — on March 2 and 3 — brought mostly heavy rain and wet snow to parts of Massachusetts, Connecticut, eastern New York, and northern New England. Strong to damaging winds swept central and southern New England, with hurricane-force gusts across southeastern New England and Cape Cod. The storm caused severe coastal flooding across multiple high-tide cycles.

WX1BOX volunteers were active for 17 hours straight, and afterward, some continued to monitor high tides and strong winds, which persisted into the weekend. Volunteers handled more than 1,000 reports of wind damage. At the height of the storm, nearly a half million customers in Massachusetts lost electrical power. Amateur Radio nets were active on repeaters, and on the New England reflector on EchoLink® conference node 9123/*NEW-ENG3*/IRLP 9123 system.

Eastern Massachusetts ARES was on standby, and Cape Cod ARES was active for several days with a regional sheltering operation, until power was largely restored to Cape Cod. WC1MAB at the Massachusetts Emergency Management Agency Region 2 Headquarters was also active.

A few days later, a second nor'easter brought heavy, wet snowfall to southern New England, causing another round of downed trees and power lines and nearly a half-million customers without power in Massachusetts and Connecticut. Eastern Massachusetts ARES was on standby during the storm and for several days afterward until most power was restored.

At WX1BOX, another 14 hours of SKYWARN operations ensued. Amateur Radio nets in Massachusetts, Connecticut, and Rhode Island fielded reports of heavy snowfall, strong gusty winds, heavy rainfall, and minor coastal flooding. Widespread snowfall amounts totaled up to 16 inches in interior southern New England. As much as 30 inches of snow fell in western Massachusetts, as well as in parts of New Hampshire, Vermont, and Maine.

Macedo said it became clear from SKYWARN reports that the region would experience extended power outages. "These reports were noted by state emergency management and the media, and used to inform the public about storm risks and to prepare and act accordingly," Macedo said.

The third storm was a major nor'easter and blizzard that affected the entire New England region with heavy snowfall — 2 feet or more in northern areas. Wind gusts greater than 70 MPH across Cape Cod, combined with the weight of wet snow, took down trees and utility lines. Eastern Massachusetts ARES went on standby once more.

SKYWARN nets were active throughout the region, gathering snowfall and wind reports from around southern New England. WX1BOX volunteers were on duty for 16 hours, bringing the monthly total to 47.

Seven Cape Cod ARES volunteers provided communication at shelters, as cell phone service was disrupted during the blizzard. Cape Cod ARES District Emergency Coordinator Frank O'Laughlin, WQ1O, said the volunteers "seamlessly" transitioned from providing situational awareness to addressing communication failures.

Advocacy

ARRL Requests Expanded HF Privileges for Technician Licensees

In late February, ARRL entered a Petition asking the FCC to expand HF privileges for Technician licensees to include limited phone privileges on 75, 40, and 15 meters, plus RTTY and digital mode privileges on 80, 40, 15, and 10 meters.

The proposal stemmed from recommendations put forth by the ARRL Board of Directors' Entry-Level License Committee, which explored various initiatives and reviewed more than 8,000 responses to membership surveys in 2016 and 2017. The Entry-Level License Committee offered very specific data- and survey-supported findings about growth in Amateur Radio and its place in the advanced technological demographic that includes individuals younger than 30.

The proposal is critical to developing improved operating skills, increasing emergency communication participation, improving technical self-training, and boosting overall growth in the Amateur Service, which has remained nearly inert at about 1% per year.

ARRL believes expanding Technician privileges will attract more newcomers to Amateur Radio, lead to increased retention of licensees who hold Technician-class licenses, and provide an improved incentive for entry-level licensees to increase technical self-training and pursue higher license class achievement and development of communications skills.

The FCC has not assessed entry-level operating privileges since 2005, and over the course of the intervening years, the Technician license has become the principal entry-level license class in the Amateur Service.

Now numbering some 378,000, Technician licensees comprise more than one-half of the US Amateur Radio population. ARRL said that after 17 years of experience with the current Technician license as the gateway to Amateur Radio, it's urgent to make it more attractive to newcomers, in part to improve upon science, technology, engineering, and mathematics (STEM) education.

Preparations for WRC-19 Continue

ARRL is Amateur Radio's proactive advocate and representative voice in achieving regulatory and legislative success. Through our efforts in Washington and on the international stage through the auspices of the International Amateur Radio Union (IARU), ARRL works to ensure that access to the Amateur Radio spectrum remains available and free from interference as well as from acquisition by commercial interests. ARRL is an active participant, working with US government agencies to prepare positions and proposals to the Americas Regional Telecommunications Organization — the Inter American Telecommunication Commission (CITEL) and at the global level, the International Telecommunication Union (ITU).

The International Telecommunication Union (ITU) will hold the World Radiocommunication Conference 2019 (WRC-19) in Sharm el Sheik, Egypt, from October 28 to November 22, 2019. Each World Radiocommunication Conference will review and revise the Radio Regulations. They are typically held every 3 to 4 years.

This Conference has several agenda items and other "issues" identified in WRC-15 Resolution 809 that may impact Amateur Radio. The major issues ARRL is tracking to prepare for WRC-19 are

a possible allocation of 50-54 MHz to the Amateur Service in Region 1, International Mobile Telecommunications 2020 (IMT) or 5G, and Wireless Power Transmission (WPT) (both for electric vehicles and for mobile charging devices). Other issues ARRL is monitoring include Intelligent Transportation Systems (ITS); Railway: train – trackside (Mobile Service allocations); Wireless Access Systems (WAS/RLAN); Space Operation Service (non-GSO satellites); and 275 – 450 GHz.

Member States of the International Telecommunication Union (ITU) elected Doreen Bodgan-Martin, KD2JTX, as Director of ITU's Telecommunication Development Bureau (BDT) during the Union's 20th Plenipotentiary Conference (PP-18) in Dubai, United Arab Emirates. Ms. Bogdan-Martin became the first woman to serve as one of ITU's top elected officials when she assumed the office as Director of BDT.

ITU-R Working Party 5A (WP 5A) is responsible for "Land mobile service above 30 MHz (excluding IMT); wireless access in the fixed service; amateur and amateur-satellite services."

ARRL's Jon Siverling, WB3ERA, serves as the Rapporteur for ITU Region 2 (the Americas) in WP 5A. His report (*Liaison Rapporteur's Report on Relevant Activities in Certain Countries in Region 2*) emphasized the emergency communications provided by Radio Amateurs during this past hurricane season, including Hurricane Willa (Mexico), Hurricane Michael (Florida), the ARRL Atlantic Hurricane Season Webinar and the link to the ARRL's 2018 Hurricanes (information and news summarizing the preparations and response by the Amateur Radio Service volunteers who were supporting emergency communications in areas that were impacted by hurricanes in 2018).

WG 5A-1 also completed a liaison statement to Working Party 1A (Spectrum engineering techniques) and Working Party 3L (Ionospheric propagation and radio noise) highlighting issues of concern to the Amateur Services in the Preliminary Draft New Report (PDNR) ITU-R SM. [WPT 100 – 148.5 kHz] such as spurious and harmonic emissions (which require additional study), attenuation due to walls and building penetration levels, and separation distance between WPT devices and amateur antennas.

ARRL continues defending Amateur Radio from interference by mobile charging devices and the issues surrounding charging electric vehicles (Wireless Power Transmission for Mobile Devices and Electric Vehicles) (WPT and WPT-EV) by active participation in ITU-R Study Group 1 (Spectrum Engineering Techniques, Spectrum management methodologies and economic strategies, Spectrum Monitoring).

ARRL got a first glimpse at the proposals being developed around the world for 2019's World Radiocommunication Conference as the ITU Radiocommunication Bureau held the ITU Inter-regional Workshop on WRC-19 Preparation in Geneva in November 2018. Based on the presentation by the CPM-19 Chapter Rapporteurs of the results of ITU-R studies as well as on up-to-date information regarding the Bureau and regional preparations for CPM19-2, RA-19 and WRC-19, this meeting provided participants with the opportunity to exchange views and have a better understanding of the draft common views, positions and/or proposals of the concerned entities.

Membership

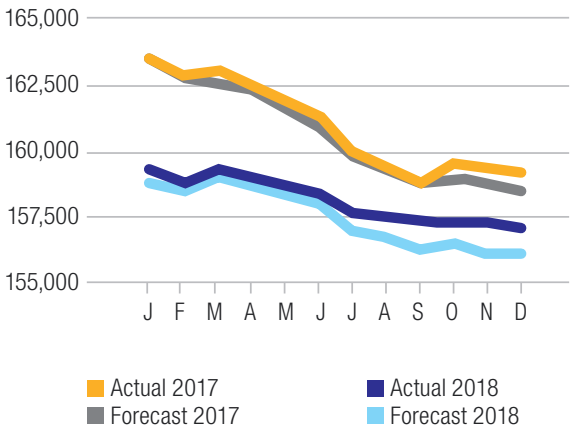
Beating the 2018 Forecast

2018 ended with 156,899 members — 999 members ahead of year-end goal. This represents a net loss for 2018 of 1.36% vs. the 2.0% originally forecast and the 1.5% reforecast in October.

ARRL's overall renewal rate for 2018 was 83%. The industry average for associations with individual memberships (not trade associations) is 78%, according to the 2018 Membership Marketing Benchmarking Report prepared annually by Marketing General Incorporated.

ARRL Membership Manager Diane Petrilli, KB1RNF, and a small group of ARRL staffers are working with marketing agency Mintz + Hoke to help formulate future strategy for increasing and maintaining membership.

Membership Forecast vs. Actual



Lifelong Learning

ARRL's Newest Department

ARRL Lifelong Learning Manager Kris Bickell, K1BIC.

The time it takes to study and pass the exam to earn your Amateur Radio Technician license is relatively short, typically taking a few weeks or maybe months. A ham's ability to operate and make connections, however, can last decades, or even a lifetime for those who start young. Yet one of the biggest challenges that would-be Amateur Radio operators face is figuring out how to take that first step and get active in ham radio. Therefore, many simply stop after getting their license, and never get to experience everything radio has to offer.

Recently more and more new licensees are looking to ARRL for guidance. And with so many people dealing with busy schedules and having online access to nearly any type of content at their convenience, the time was right for ARRL to take on the mentoring approach that has been at the heart of the Amateur Radio community for decades.

ARRL established the Lifelong Learning department in early 2018 in order to fill this need to learn at anytime and anywhere. Under the direction of ARRL Lifelong Learning Manager Kris Bickell, K1BIC, this new initiative will be tasked with creating an online resource center that will allow hams to select from a variety of learning paths

and topics. This instructional content will not only help these new licensees become active, but will also allow current hams to expand their knowledge and skills.

These instructional materials will cover a variety of topics, such as getting on the air, learning how to experiment and build your own equipment, communicating with others, and becoming involved with local emergency operations and public service opportunities.

The program is being developed with assistance from Mintz + Hoke, a marketing agency in Avon, Connecticut, who will help ARRL build a new online learning center focused on promoting a lifetime of learning about Amateur Radio.

The Lifelong Learning department will continue to provide similar services that the Educational Services department offered, from license instruction to Amateur Radio in the classroom and beyond (by supporting ARISS contacts). This includes the popular Teachers Institute on Wireless Technology, which gives teachers the tools and strategies they need to introduce basic electronics, the science of radio, space technology and satellite communications, to their classrooms.

With the development of this new Lifelong Learning program, ARRL's instructional scope has expanded, and will help students of all ages learn about Amateur Radio.

ARRL Volunteer Examiner Coordinator Program

A Five-Year Milestone for the VEC

For the fifth year in a row, the ARRL VEC conducted more than 7,000 Amateur Radio exam sessions in a year. A total of 7,035 ARRL sponsored exam sessions were administered in 2018, marginally behind the 7,075 administered in 2017. 34,493 exam applicants were served in 2018 compared to 35,352 in 2017. Additionally, 1,781 new Volunteer Examiners (VEs) were added to the program.

ARRL VEC filed a total of 30,393 license application forms in 2018, compared to 31,014 in 2017. That includes new, upgrade, modification, renewal, and club station filings.

Club license activity grew in 2018. As one of three FCC-authorized Club Station Call Sign Administrators, ARRL VEC processed and transmitted 1,803 club licenses for the FCC this year compared to 1761 last year. New club license requests increased by 35% (455 in 2018 vs. 338 in 2017).

ARRL VEC continues to participate as a member of the National Conference of VECs Question Pool Committee. The five-member committee prepared a revised General class question pool (Element 3) for examination use by the Amateur community. The new pool will become effective on July 1, 2019 and it will remain valid until June 30, 2023.

In April 2018, ARRL VEC administered our first-ever exam session in Cambodia. Three US amateurs who work abroad coordinated a session at the National Polytechnic Institute of Cambodia. Two successful candidates, both Cambodian nationals, earned Technician licenses, and one university professor who passed all three exams became an Amateur Extra.

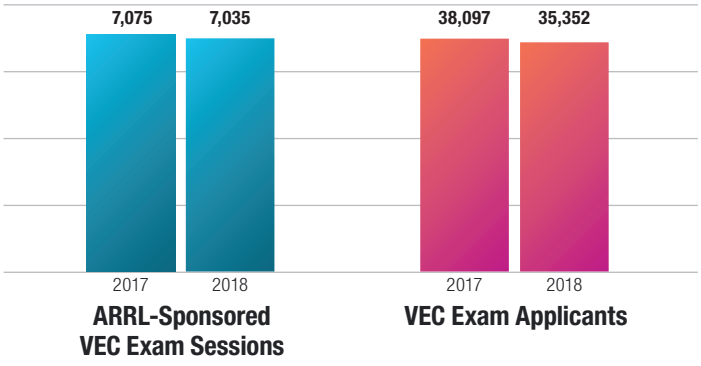
Amateur Radio Licenses: 30,000 New Ham Licensees

For the past 5 years, new licensees have totaled more than 30,000 each year.

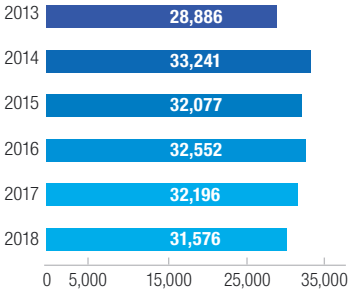
In the first half of the year, new amateur licenses issued were up by 9% over 2017 totals. However, interest in Amateur Radio took a downturn in the second half of 2018. By year end, the gap closed, and total FCC license activity fell below 2017 by 2% (41,032 in 2018 vs. 41,772 in 2017).

New amateur licenses granted by FCC in 2018 were down 2% over 2017 (31,576 in 2018 vs. 32,196 in 2017). This is the fifth year in a row the total has been over 30,000. Upgraded licenses issued by the FCC were down slightly compared to last year (9456 in 2018 vs. 9576 in 2017).

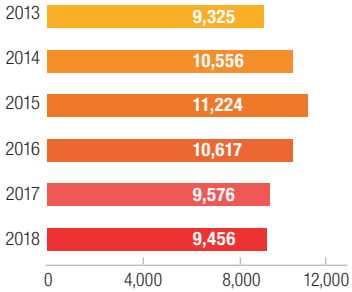
The total number of US amateurs in the FCC database continues to grow each year since the FCC license class restructure in 2000. As of December 31, 2018, the number of licensees reached 755,430 (748,136 in 2017).



ARRL-Sponsored VEC Exam Sessions | **VEC Exam Applicants**



New FCC Licenses



Upgraded FCC Licenses

Development

Four New Scholarships Founded in 2018

In 2018, the ARRL Foundation established four new scholarships, which will each be awarded annually, beginning in 2019.

The Joel R. Miller (W7PDX) and Martha C. Miller STEM Scholarship is open to residents in the ARRL Northwestern Division who are pursuing an Associates or undergraduate degree in the fields of science, technology, engineering, or math.

The East Coast Amateur Radio Service (ECARS) Scholarship is available to individuals pursuing an Associates or undergraduate degree in the fields of science, technology, engineering, or math and residing in the coverage area of ECARS.

The Palomar Amateur Radio Club (PARC) Scholarship is open to high school seniors who will be attending an accredited college, university, junior college, or trade technical school the following year. Applicants must reside in San Diego or Imperial counties, California, and are encouraged to become members of PARC. Applicants must also demonstrate activity and interest in radio service or technical proficiency by participating in some form of radio-related activities such as emergency communications, equipment construction, or community radio service.

The Dick Warren, K6OBS, Memorial Scholarship is open to applicants attending an accredited technical school, community college, or undergraduate college or university to earn a degree in education, science, math, engineering, technology, or a healthcare field. Preference is given to residents in San Diego and Imperial counties of California, or the state of California, and must be performing at a high academic level or be an at-risk youth providing at least two counselor or teacher recommendations.

Grants Awarded in 2018

The Woodbridge Middle School located in High Ridge, Montana, received a $1,500 grant from the ARRL Foundation for *Operation Wireless* in 8th grade physical science. The 6-week unit begins with interactive portions on light and sound waves, and culminates with electromagnetic spectrum waves. Participating students also construct their own basic radios, which they are allowed to keep.

PS 33 / Chelsea Prep School in New York City received a $1,000 grant to support a school radio station for 5th and 6th graders. Students will learn on-air conversation skills and be taught hands-on technical skills and STEM-related lessons. Once established, mentors of this program intend to create a special club for girls, to encourage additional engagement.

The Magic Valley Amateur Radio Club of Twin Falls, Idaho, sponsors a local Boy Scout Explorer Club. The club received a grant in the amount of $2,000 to help expand the radio station, giving scouts a Makerspace where they can learn about STEM-related careers and continue to promote Amateur Radio.

Ruth Willet, KM4LAO, Wins 2018 Hiram Percy Maxim Memorial Award

Nineteen-year-old Ruth Willet, KM4LAO, of Cana, Virginia, was named as the recipient of the 2018 ARRL Hiram Percy Maxim Memorial Award by the ARRL Board of Directors.

Willet, who earned her Technician class license in June 2015 and upgraded to Amateur Extra in May 2016, was instrumental in re-establishing the Amateur Radio and Electronics Club (K8HPS) at Kettering University in Michigan, where she is a junior pursuing a double major in engineering physics and mechanical engineering while maintaining an A average. She alternates 11-week academic terms with 11-week co-op jobs at Textron Specialized Vehicles in Augusta, Georgia.

Willet is actively involved in recruiting and mentoring new licensees and in community awareness programs. She is on the air daily on HF, using SSB or CW and satellites.

Willet has written articles for numerous amateur radio news outlets, including *QST*, and is a popular speaker at hamfests and conventions, including Hamvention®. In May 2018, Willet was presented with the Radio Club of America's Young Achiever Award.

The Hiram Percy Maxim Memorial Award is given annually by the Board to a radio amateur under the age of 21 whose accomplishments and contributions to both Amateur Radio and the local community are of an exemplary nature. It carries a $1,500 stipend and an engraved plaque.

The ARRL Donor Recognition Reception at Hamvention® 2018

Every year, ARRL honors donors with a dinner at the biggest Amateur Radio event of the year, the Dayton Hamvention®, held in May at the Greene County Fairgrounds and Expo Center, in Xenia, Ohio, with the Donor Dinner held at America's Packard Museum, in Dayton, Ohio. This restored Packard dealership operates as a full-time museum, with more than 50 vintage autos in an Art Deco showroom. ARRL was pleased to honor our valued donors in this beautiful setting on May 17, 2018.

ARRL staff was pleased to welcome a large number of Maxim Society Members to the 2018 Donor Dinner. [All photos by Chuck Childers, Childers Photography]

Valerie Hotzfeld, NV9L, recipient of the Hamvention® Awards Committee's "Amateur of the Year" award for 2018, was a keynote speaker at the reception.

Andy Anderson, KEØAYJ, who was instrumental in the Amateur Radio response to Hurricane Maria in Puerto Rico in 2017, was a keynote speaker at the reception.

In 2018, the Maxim Society welcomed new members John Patterson, WCØW; Leigh Patterson, WCØT; Katie Allen, WY7YL; Dwayne Allen, WY7FD; Kermit Carlson, W9XA; Kent Trimble, K9ZTV, and Karl Bowman, W4CHX.

ARRL President Rick Roderick, K5UR, accepts a pledge payment from Dayton Amateur Radio Association's Treasurer Mike Kalter, W8CI, in acknowledgment of DARA's commitment to ARRL's Second Century Campaign.

Maxim Society Members (left to right) Tammy Orr, W7CYL, and Jim Wyant, W7AH; Barney Scholl, K3LA, and Cookie Scholl, K3LEA; and Sherman Banks, W4ATL.

Legacy Circle Members

The ARRL Legacy Circle recognizes individuals who have provided for ARRL in their wills or other estate plans. Gifts received in this capacity – unless otherwise designated – provide unrestricted revenue to be used wherever resources are most needed, either through the ARRL Endowment or to assist in offsetting operational costs.

Rev. Dr. Alicia, KG6LJ, and Dave, K6XG, Abell

Robert Ahmann, W7SC

Alan Applegate, KØBG

Donald J. Backys, K9UQN

Bob Barden, MDØCCE

Robert C. Beach, W8LCZ

Michael E. Beck, W7EDO

Mark Beckwith, N5OT and Kathryn Stewart

Bob Beebe, GU4YOX/KX6N

Dave Bell, W6AQ†, and Alice (Sam) Bell, W6QLT

Steven Bense, W9SRB

Rev. Paul Bittner, WØAIH†

Jim Boockholdt, N4AL

Alvin C. Borne, W6IVO

S. Clint Bradford, K6LCS

George Byrkit, K9TRV, and Mary Byrkit

Kenneth R. Cary, K9UCX

Roberta Chamalian, WB1ADL, and Peter Chamalian, W1RM

Joseph G. Chaet, W1RGH†, and Carla M. Chaet, N7OPU†

J. Craig Clark, Jr., K1QX

Jose R. Cruz, KA2KCR

John G. DePrimo, K1JD

Richard Dievendorff, K6KR

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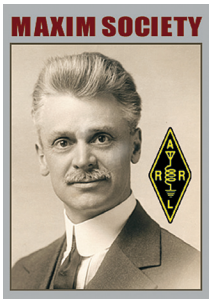

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Vice Director
Austin, Texas

Financial Summary

Operationally, 2018 was another good year for ARRL, producing a $701,000 gain from operations. However, the downturn in the investment markets caused the overall net assets to decrease for the year by $737,000. Overall revenues and expenses were both down from 2017.

ARRL membership declined in 2018 to 156,899 members, which was a decrease of 1.4% from the end of 2017. While a decline was still expected as a residual effect of the 2016 dues increase, the number of members at year end was 1,000 more than originally forecasted. Despite the drop in membership, dues revenues increased by 1% to almost $6.8 million.

ARRL publications and products continue to be popular with our members and the public, although, revenues from publication sales fell to $3.8 million in 2018, a decrease of 5.1% in comparison to the prior year.

Print advertising, as with many organizations, continued a downward trend in 2018. Sales of advertising across the various ARRL platforms were $1.8 million in 2018, an 8.6% decrease from 2017.

Although the investment markets had a downturn in the fourth quarter of 2018, interest, dividends, and realized gains contributed $653,000 to ARRL revenues in 2018, up by 28.6% from the previous year.

Revenues from license examination activities and programs and services totaled $990,000 in 2018, up by about 3.0% from the prior year. The higher revenues were contributed to the new DXCC entity (Kosovo, Z6) and the popularity of the FT8 operating mode.

After an unusually high amount of bequests and the outpouring of support for Ham Aid due to the devastating hurricane season in 2017, voluntary contributions returned to a more normalized level in 2018. ARRL members continued the tradition of giving to the organization with voluntary contributions both unrestricted and restricted totaling $1.2 million in 2018.

With a continued focus on controlling costs, total expenses were down in 2018, but only by 0.3% in comparison to the prior year. Total expenditures across the organization stood at $14.5 million, down from $14.7 million in 2017.

Total assets for the organization stood at $32.4 million at the end of 2018, slightly down from $32.7 million at the end of 2017. Of these totals, cash and investments totaled approximately $29.3 million at year end in both 2018 and 2017. The investment portfolio supports the various unrestricted and restricted funds in addition to the long-term liability represented by the Life Member program. Net assets decreased to $19.8 million at December 31, 2018, from $20.5 million a year earlier. All of this decrease was driven by the impact of the investment markets on the value of ARRL's investment portfolio during the last quarter of the year.

In summary, ARRL continues to be in good financial condition and has a strong financial foundation. This solid financial position will provide the resources to allow ARRL to evolve to meet the needs, desires, and demands of today's and tomorrow's radio amateur. The challenge is to meet these demands and create new types of value to grow the membership and ensure the future success of ARRL while maintaining a stable financial footing. The organization is embracing this challenge with plans to invest in the future while sustaining current operations and supporting the membership.

Independent Auditor's Report

To the Board of Directors
The American Radio Relay League, Incorporated

We have audited the accompanying financial statements of The American Radio Relay League, Incorporated, which comprise the statements of financial position as of December 31, 2018 and 2017, and the related statements of activities, functional expenses, and cash flows for the years then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of The American Radio Relay League, Incorporated as of December 31, 2018 and 2017, and the changes in its net assets and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Report on Supplementary Information

Our audits were conducted for the purpose of forming an opinion of the financial statements as a whole. The schedules of restricted funds for time and purpose summary are presented for purposes of additional analysis and are not a required part of the financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audits of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the financial statements as a whole.

CohnReznick LLP

Hartford, Connecticut
May 7, 2019

The American Radio Relay League, Incorporated

Statements of Financial Position
December 31, 2018 and 2017

Assets

	2018	2017
Current assets		
Cash	$ 1,660,661	$ 1,829,880
Accounts receivable, net of allowance for doubtful accounts of $38,156 and $34,897	218,133	291,267
Inventories, net	497,220	562,821
Contributions receivable, current	85,513	100,158
Other receivables	77,288	80,310
Prepaid expenses and other current assets	299,030	226,586
Total current assets	2,837,845	3,091,022
Other assets		
Investments	27,617,702	27,478,256
Long-term contributions receivable, net of discount and allowance of $233,970 and $234,378	367,780	417,072
Land, building and equipment, net	1,584,888	1,716,246
Total other assets	29,570,370	29,611,574
Total assets	$ 32,408,215	$ 32,702,596

Liabilities and Net Assets

Current liabilities		
Accounts payable	$ 368,301	$ 329,932
Accrued liabilities	559,652	331,166
Deferred revenue	22,960	39,338
Subtotal operational current liabilities	950,913	700,436
Deferred life membership dues, current	513,827	515,475
Deferred term membership dues, current	3,213,063	3,095,816
Total current liabilities	4,677,803	4,311,727
Long-term liabilities		
Deferred life membership dues, less current portion	7,078,670	6,943,997
Deferred term membership dues, less current portion	876,966	935,470
Total long-term liabilities	7,955,636	7,879,467
Total liabilities	12,633,439	12,191,194
Commitments		
Net assets		
Without donor restrictions		
Undesignated	3,582,994	3,790,266
Board designated	8,665,279	8,936,839
Total unrestricted	12,248,273	12,727,105
With donor restrictions	7,526,503	7,784,297
Total net assets	19,774,776	20,511,402
Total liabilities and net assets	$ 32,408,215	$ 32,702,596

See Notes to Financial Statements.

The American Radio Relay League, Incorporated

Statement of Activities
Year Ended December 31, 2018

	Without donor restrictions	With donor restrictions	Total
Revenues and contributions			
Membership dues	$ 6,754,691	$ -	$ 6,754,691
Net publication sales	3,763,040	-	3,763,040
Advertising	1,883,115	-	1,883,115
Investment income	439,075	213,711	652,786
Examination fees and other	425,669	-	425,669
Program and service fees	563,411	-	563,411
Contributions and support	675,889	519,348	1,195,237
Net assets released from restrictions	616,964	(616,964)	-
	15,121,854	116,095	15,237,949
Expenditures			
Programs and services	7,917,827	-	7,917,827
Publications	3,076,001	-	3,076,001
Administration	3,065,788	-	3,065,788
Fundraising	476,836	-	476,836
	14,536,452	-	14,536,452
Increase in net assets before other income (expense)	585,402	116,095	701,497
Other income (expense)			
Bequests, Board designated functioning as an endowment	1,537	-	1,537
Second Century Campaign endowment contributions	-	2,088	2,088
Unrealized loss on investments	(1,065,771)	(375,977)	(1,441,748)
	(1,064,234)	(373,889)	(1,438,123)
Change in net assets	(478,832)	(257,794)	(736,626)
Net assets, beginning	12,727,105	7,784,297	20,511,402
Net assets, end	$ 12,248,273	$ 7,526,503	$ 19,774,776

See Notes to Financial Statements.

The American Radio Relay League, Incorporated

Statement of Activities
Year Ended December 31, 2017

	Without donor restrictions	With donor restrictions	Total
Revenues and contributions			
Membership dues	$ 6,682,264	$ -	$ 6,682,264
Net publication sales	3,965,971	-	3,965,971
Advertising	2,060,716	-	2,060,716
Investment income	321,498	186,187	507,685
Examination fees and other	436,396	-	436,396
Program and service fees	523,938	-	523,938
Contributions and support	779,470	1,032,868	1,812,338
Net assets released from restrictions	758,402	(758,402)	-
	15,528,655	460,653	15,989,308
Expenditures			
Programs and services	7,730,654	-	7,730,654
Publications	3,881,972	-	3,881,972
Administration	2,458,240	-	2,458,240
Fundraising	500,747	-	500,747
	14,571,613	-	14,571,613
Increase in net assets before other income	957,042	460,653	1,417,695
Other income			
Bequests, Board designated functioning as an endowment	1,048,174	-	1,048,174
Second Century Campaign endowment contributions	-	17,549	17,549
Uncollectible pledge	-	(83,183)	(83,183)
Unrealized gain on investments	1,238,980	410,041	1,649,021
	2,287,154	344,407	2,631,561
Change in net assets	3,244,196	805,060	4,049,256
Net assets, beginning	9,482,909	6,979,237	16,462,146
Net assets, end	$ 12,727,105	$ 7,784,297	$ 20,511,402

See Notes to Financial Statements.

The American Radio Relay League, Incorporated

Statement of Functional Expenses
Year Ended December 31, 2018
(with Corporate totals for 2017)

	Program	Publications	Administrative	Fundraising	2018	2017
Salaries, compensation and benefits	$ 4,102,262	$ 1,058,010	$ 1,706,762	$ 271,454	$ 7,138,488	$ 6,985,910
Publication costs	916,928	950,598	350	3,813	1,871,689	2,030,342
Shipping and forwarding costs	827,495	644,556	-	-	1,472,051	1,483,725
Communication and postage	395,800	146,212	36,133	56,905	635,050	677,747
Other	113,107	1,201	360,042	59,820	534,170	528,560
Occupancy costs	194,670	80,031	268,636	7,649	550,986	541,390
Office supplies and expenditures	319,503	99,419	39,667	58,999	517,588	568,376
Legal and professional fees	410,597	10,813	90,143	1,057	512,610	515,999
Governance	114,695	-	392,596	-	507,291	474,215
Travel	266,910	28,979	10,108	5,580	311,577	288,190
Depreciation	134,755	24,283	83,274	5,074	247,386	240,825
Rentals and equipment maintenance	121,105	31,899	78,077	6,485	237,566	236,334
Total	$ 7,917,827	$ 3,076,001	$ 3,065,788	$ 476,836	$ 14,536,452	$ 14,571,613

See Notes to Financial Statements.

The American Radio Relay League, Incorporated

Statements of Cash Flows
Years Ended December 31, 2018 and 2017

	2018	2017
Cash flows from operating activities		
Change in net assets	$ (736,626)	$ 4,049,256
Adjustments to reconcile change in net assets to net cash provided by operating activities		
Receipts to establish or increase permanent endowment	(5,714)	(38,007)
Depreciation	247,386	240,825
(Gain) loss on sale of equipment	2,104	(218)
Uncollectible contributions receivable	6,000	83,183
Discount and allowance for contributions receivable	(25,175)	(25,175)
Change in inventory reserve	(14,594)	(15,936)
Unrealized loss (gain) on investments	1,441,748	(1,649,021)
Realized gain on investments allocated to general and permanent funds	(222,759)	(175,198)
Changes in operating assets and liabilities		
Accounts receivable	73,134	(32,675)
Inventories	80,195	120,043
Contributions receivable	83,112	117,338
Other receivables	3,022	(18,920)
Prepaid expenses and other current assets	(72,444)	(9,381)
Accounts payable and accrued liabilities	266,855	51,930
Deferred revenue	(16,378)	11,899
Deferred life membership dues, net of allocated realized gain	21,320	63,670
Deferred term membership dues	58,743	(47,744)
Net cash provided by operating activities	1,189,929	2,725,869
Cash flows from investing activities		
Purchase of equipment	(118,132)	(529,413)
Proceeds from sale of equipment	-	290
Sales of investments	6,262,141	5,463,577
Purchases of investments	(7,508,871)	(7,243,661)
Net cash used in investing activities	(1,364,862)	(2,309,207)
Cash flows from financing activities		
Receipts to establish or increase permanent endowment	5,714	38,007
Net increase (decrease) in cash	(169,219)	454,669
Cash, beginning	1,829,880	1,375,211
Cash, end	$ 1,660,661	$ 1,829,880

See Notes to Financial Statements.

Note 1 - Organization and summary of significant accounting policies

Nature of activities

The American Radio Relay League, Incorporated (the "League") is a not-for-profit organization formed to promote interest in amateur radio communication, experimentation and the advancement of radio art, further the public welfare and foster education in the field of electronic communication. The League also publishes documents, books, magazines and pamphlets necessary or incidental to its purpose. The League's operations are primarily supported by membership dues, publication sales, advertising and contributions. The League's members are primarily located throughout the United States.

Basis of presentation

The accompanying financial statements of the League have been prepared on the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America ("GAAP"). The League reports information regarding its financial position and activities according to the following net asset categories:

Net assets without donor restrictions

Net assets without donor restrictions represent available resources other than donor-restricted contributions. Included in net assets without donor restrictions are funds that may be earmarked for specific purposes.

Net assets with donor restrictions

Net assets subject to donor- (or certain grantor-) imposed restrictions are temporary in nature, such as those that will be met by the passage of time or other events specified by the donor. Other donor-imposed restrictions are perpetual in nature, where the donor stipulates that resources be maintained in perpetuity.

Cash and cash equivalents

Cash and cash equivalents include all cash balances and highly liquid short-term instruments with an original maturity of three months or less when acquired. Temporary cash and cash equivalent balances associated with investment accounts are included with investments in these financial statements. There were no cash equivalents as of December 31, 2018 and 2017 included in operating cash.

Allowance for doubtful accounts

Trade accounts receivable is stated at the amount management expects to collect from outstanding balances. The League performs on-going credit evaluations of its customers' financial condition and grants credit based on each customer's ability to pay. The League evaluates the need for an allowance for doubtful accounts based upon factors surrounding the credit risk of specific customers, historical trends and other information.

Contributions receivable

Contributions receivable are recorded at their net realizable value, which approximates fair value. Receivables that are expected to be collected in future years are discounted to their present values.

Inventories

Inventories consist of publications, software, membership supplies and other miscellaneous items. Inventories are stated at the lower of cost or market. Cost is determined by the first-in, first-out (FIFO) method. Inventories are reflected net of reserves for slow moving inventory of $81,837 and $96,431 as of December 31, 2018 and 2017, respectively.

Investments
The League reports investments at fair value (see Note 5) and reflects any gain or loss in the statements of activities. Investment income and gains and losses are considered unrestricted unless restricted by donor stipulation or by operation of law.

Land, building and equipment
The League capitalizes expenditures for building and equipment with a useful life of greater than one year and a cost of $1,000 or more. Purchased land, building and equipment are carried at cost less accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful life of the asset. Estimated lives for financial reporting purposes are as follows:

Asset	Estimated useful lives
Building	40 years
Furnishings, equipment and building improvements	3 - 15 years
Computer software	3 - 5 years

Expenditures for repairs and maintenance are charged to expense as incurred. For assets sold or otherwise disposed of, the cost and related accumulated depreciation are removed from the accounts and any resulting gain or loss is reflected in change in net assets for the period.

The League reviews its long-lived assets for impairment using an undiscounted cash flow method whenever events or circumstances indicate the carrying value of an asset may not be recoverable. There were no impairment losses related to long-lived assets as of December 31, 2018 and 2017.

Endowment and spending policy
The League adheres to investment and spending policies for endowment assets that attempt to provide a predictable stream of funding to programs supported by its endowment while seeking to maintain the purchasing power of the endowment assets. Endowment assets include those assets of donor-restricted funds that the League must hold in perpetuity as well as board-designated funds. Under this policy, as approved by the Board of Directors, the endowment assets are invested in accordance with sound investment practices that emphasize long-term investment fundamentals. It is recognized that short-term market fluctuations may cause variations in account performance and investment balances.

To satisfy its long-term rate of return objectives, the League relies on a total return strategy in which investment returns are achieved through both capital appreciation (realized and unrealized) and current yield (interest and dividends). The League targets a diversified asset allocation to achieve its long-term return objectives within prudent risk constraints.

The League appropriates funds for distribution based on an annual review of investment results and available net assets. The League's objective is to maintain the purchasing power of the endowment assets held in perpetuity or for a specified term as well as to provide additional real growth through new gifts and investment return.

Revenue recognition
Membership dues - Revenue from term membership dues is recognized to the extent of acquisition costs when memberships are received. The remaining portion is recognized as revenue on the straight-line basis ratably over the applicable membership period.

The by-laws of the League provide for a life membership dues rate that equals 25 times the term membership annual dues rate. Life member dues are deferred upon receipt. Investment earnings on allocated life member investments are deferred. Revenue is recognized at an amount representative of the estimated cost to the League for providing services to the life members.

Publication sales - Revenue from publication sales is recognized when the earnings process is complete and the risks and rewards of ownership have transferred to the customer, which is generally considered to have occurred upon shipment of the publication.

Advertising - Advertising revenue is recorded during the period in which the advertisements are published.

Contributions and bequests - The League reports unconditional promises to give as revenue when the promise is received. Conditional promises to give are recognized as revenue when the condition is met. Contributions received are recorded as with or without donor restrictions depending on the existence and/or nature of any donor restrictions. When a restriction expires (that is, when a stipulated time restriction ends or purpose restriction is accomplished), net assets with donor restrictions are reclassified to net assets without donor restrictions and reported in the statements of activities as net assets released from restrictions. Donor-restricted contributions whose restrictions are met in the same reporting period have been reported as unrestricted support in the statement of activities.

Income taxes
The League is exempt from federal income taxes under Section 501(c)(3) of the Internal Revenue Code. However, the League is subject to federal and state income tax as a result of unrelated business income arising from net advertising income. There are no unrelated business income tax liabilities for the years ended December 31, 2018 and 2017.

The League's federal information returns prior to calendar year 2015 are closed and management continually evaluates expiring statutes of limitations, audits, proposed settlements, changes in tax law and new authoritative rulings. The League recognizes interest and penalties associated with uncertain tax positions as part of the income tax provision and includes accrued interest and penalties with the related tax liability in the statements of financial position. The League has no unrecognized tax positions at December 31, 2018 and 2017.

Functional expenses
The costs of providing various program and supporting services have been summarized on a functional basis in the statements of activities. Accordingly, certain costs have been allocated among the program and supporting services benefited.

Use of estimates
The preparation of the financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

Newly adopted accounting standards
During 2018, the League adopted the provisions of Accounting Standards Update (“ASU”) 2016-14. The provisions improve the usefulness and reduce the complexities of information provided to donors, grantors, creditors, and other users of the financial statements by eliminating the distinction between resources with permanent restrictions and those with temporary restrictions from the face of the financial statements. Enhanced disclosures in the notes to the financial statements will provide useful

information about the nature, amounts and effects of the various types of donor-imposed restrictions, which often include limits on the purposes for which the resources can be used as well as the time frame for their use. The guidance also enhances disclosures for board designated amounts, composition of net assets without donor restrictions, liquidity and expenses both their nature and functional classification. While the adoption of ASU 2016-14 requires net assets to be presented with and without donor restrictions, the ASU had no effect on the League's total net assets.

Subsequent events
The League has evaluated events and transactions for potential recognition or disclosure through May 7, 2019, which is the date the financial statements were available to be issued.

Note 2 - Liquidity

The League regularly monitors liquidity required to meet its annual operating needs and other contractual commitments while also striving to maximize the return on investment of its funds not required for annual operations. As of December 31, 2018, the League has approximately $5.8 million of financial assets available to meet annual operating needs for the calendar year 2019 as follows:

Cash	$	1,660,661
Accounts receivable		218,133
Investments available for operations		3,833,423
Other receivable		77,288
Total	$	5,789,505

These financial assets are not subject to any donor or contractual restrictions.

The League supports its general operations primarily with membership dues, advertising, publications and program fees, as well as unrestricted donor contributions and donor restricted funds whose time or purpose restriction has been met. In addition, the Board may appropriate a portion of the earnings as needed from the League's donor-restricted endowment as described in Note 10.

The League's Investment Policy Statement requires the investment portfolio to maintain liquid instruments within its portfolio to ensure assets are available to meet general expenditures, liabilities and other obligations as they come due. The League's management may withdraw from the investments available for operations up to 4% of the average of the prior two fiscal year end market values of the regular portfolio. In addition, management may draw from the portfolio the annual cost of the life member annual dues amount for each life member. The estimate of these two amounts is approximately $1.6 million. Amounts withdrawn in excess of that amount require approval by the League's administration and finance committee. The League's administration and finance committee reviews investment performance and considers near-term liquidity needs on a quarterly basis.

The Board may also appropriate amounts currently reported as board designated to be available as needed. The Board designates unrestricted bequests over $50,000 to the board-designated endowment.

Note 3 - Contributions receivable

Unconditional contributions receivable to be collected as of December 31, 2018 and 2017 are expected to be realized in the following periods:

	2018	2017
In one year or less	$ 85,513	$ 100,158
In one to five years	231,750	240,450
In more than five years	370,000	411,000
Total contributions receivable	687,263	751,608
Less allowance for uncollectible contributions receivable	(50,366)	(57,470)
Less discount	(183,604)	(176,908)
Total	$ 453,293	$ 517,230

Amounts are shown in the statements of financial position as of December 31 as follows:

	2018	2017
Current	$ 85,513	$ 100,158
Long-term	367,780	417,072
Total	$ 453,293	$ 517,230

Contributions receivable expected to be received in more than one year have been discounted using a discount rate of 5.50% and 4.50% at December 31, 2018 and 2017, respectively.

Note 4 - Investments

Investments are carried at their aggregate fair value. The following summarizes the relationship between the cost and fair values as presented in the financial statements as of December 31, 2018 and 2017:

	2018		2017	
	Fair value	Cost	Fair value	Cost
Cash and cash equivalents	$ 1,589,818	$ 1,581,005	$ 619,238	$ 619,238
Equities and mutual funds	14,351,127	10,858,136	14,974,025	10,198,929
Fixed maturities	11,676,757	11,852,928	11,884,993	11,892,708
Total	$ 27,617,702	$ 24,292,069	$ 27,478,256	$ 22,710,875

The League allocates its investments into categories related to life memberships, regular operations, donor restricted and endowment funds. The following summarizes the fair value of investments by category as of December 31, 2018 and 2017:

	2018	2017
Life membership	$ 7,592,497	$ 7,459,487
Regular operations	3,833,423	3,297,633
Donor restricted for time and purpose	2,943,149	3,206,657
Functioning as an endowment	8,665,279	8,936,839
Donor restricted in perpetuity	4,583,354	4,577,640
Total	$ 27,617,702	$ 27,478,256

The following summarizes changes in relationships between cost and fair values of investments:

	2018	2017
Unrealized appreciation, beginning		
Fair value	$ 27,478,256	$ 23,774,265
Cost	22,710,875	20,655,905
Net gain	4,767,381	3,118,360
Unrealized appreciation, end		
Fair value	27,617,702	27,478,256
Cost	24,292,069	22,710,875
Net gain	3,325,633	4,767,381
Net unrealized gain (loss) for the year	$ (1,441,748)	$ 1,649,021

Investment income is summarized as follows for the years ended December 31, 2018 and 2017:

	2018	2017
Interest and dividend income	$ 647,759	$ 526,691
Net realized gain on investments	334,464	274,886
Gross investment income	982,223	801,577
Less		
Net investment income allocated to deferred life liability	(329,437)	(293,892)
Total investment income	$ 652,786	$ 507,685

Note 5 - Fair value measurements

The League values its financial assets and liabilities based on the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. In order to increase consistency and comparability in fair value measurements, a fair value hierarchy that prioritizes observable and unobservable inputs is used to measure fair value into three broad levels, which are described below:

Level 1: Quoted prices (unadjusted) in active markets that are accessible at the measurement date for identical assets or liabilities. The fair value hierarchy gives the highest priority to Level 1 inputs.

Level 2: Observable inputs other than Level 1 prices such as quoted prices for similar assets or liabilities; quoted prices in inactive markets or model-derived valuations in which all significant inputs are observable or can be derived principally from or corroborated with observable market data by correlation or other means. If an asset or liability has a specified (contractual) term, the Level 2 input must be observable for substantially the full term of the asset or liability.

Level 3: Unobservable inputs are used when little or no market data is available. The fair value hierarchy gives the lowest priority to Level 3 inputs.

In determining fair value, the League utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible as well as considers counterparty credit risk in its assessment of fair value.

Financial assets carried at fair value at December 31, 2018 and 2017 are classified in the tables below in one of the three categories described above:

	2018			
	Level 1	Level 2	Level 3	Total
Money market fund	$ 1,589,818	$ -	$ -	$ 1,589,818
Mutual funds				
Short-term bond fund	253,519	-	-	253,519
Large blend fund	320,680	-	-	320,680
Large growth fund	303,824	-	-	303,824
World large stock fund	132,125	-	-	132,125
Foreign large growth fund	131,249	-	-	131,249
Total mutual funds	1,141,397	-	-	1,141,397
Exchange traded funds				
Small blend	343,174	-	-	343,174
Mid cap blend	459,078	-	-	459,078
Large blend	6,154,426	-	-	6,154,426
Short term bond	1,458,115	-	-	1,458,115
Inflation-protected bond	186,375	-	-	186,375
Foreign large blend	601,913	-	-	601,913
Equity energy	115,665	-	-	115,665
Commodities precious metals	89,415	-	-	89,415
Long-short equity	22,657	-	-	22,657
Commodities agriculture	49,126	-	-	49,126
Natural resources	32,738	-	-	32,738
Equity precious metals	21,090	-	-	21,090
Total exchange traded funds	9,533,772	-	-	9,533,772
Stocks				
Domestic large cap	3,597,583	-	-	3,597,583
International developed	78,375	-	-	78,375
Total stocks	3,675,958	-	-	3,675,958
Certificates of deposit	298,675	-	-	298,675
Fixed maturities				
Domestic corporate bonds	-	9,990,268	-	9,990,268
U.S. Treasury Bills	-	796,124	-	796,124
International developed bonds	-	392,758	-	392,758
Global high yield taxable	-	198,932	-	198,932
Total fixed maturities	-	11,378,082	-	11,378,082
Total assets at fair value	$ 16,239,620	$ 11,378,082	$ -	$ 27,617,702

	2017			
	Level 1	Level 2	Level 3	Total
Money market fund	$ 619,238	$ -	$ -	$ 619,238
Mutual funds				
Short-term bond fund	249,791	-	-	249,791
Large blend fund	345,460	-	-	345,460
Large growth fund	31,984	-	-	31,984
Total mutual funds	627,235	-	-	627,235
Exchange traded funds				
Small blend	384,280	-	-	384,280
Mid cap blend	514,158	-	-	514,158
Large blend	6,141,291	-	-	6,141,291
Short term bond	1,465,353	-	-	1,465,353
Europe stock	118,300	-	-	118,300
Foreign mid blend	95,384	-	-	95,384
Inflation-protected bond	194,005	-	-	194,005
Foreign large blend	623,299	-	-	623,299
Equity energy	148,425	-	-	148,425
Diversified emerging markets	160,685	-	-	160,685
Total exchange traded funds	9,845,180	-	-	9,845,180
Stocks				
Domestic large cap	4,418,600	-	-	4,418,600
International developed	83,010	-	-	83,010
Total stocks	4,501,610	-	-	4,501,610
Certificates of deposit	299,709	-	-	299,709
Fixed maturities				
Domestic corporate bonds	-	10,093,210	-	10,093,210
U.S. Treasury Bills	-	895,410	-	895,410
International developed bonds	-	398,150	-	398,150
Global high yield taxable	-	198,514	-	198,514
Total fixed maturities	-	11,585,284	-	11,585,284
Total assets at fair value	$ 15,892,972	$ 11,585,284	$ -	$ 27,478,256

Level 1 stocks, mutual funds, exchange traded funds, and money market funds are valued at the daily closing price as reported by the fund. Mutual funds held are open-ended funds that are registered with the Securities and Exchange Commission and are valued at the daily closing price as reported by the fund. These funds are required to publish their daily net asset value and to transact at that price. These financial assets held by the League are deemed to be actively traded. Certificates of deposit are valued at cash values based on the instrument issued plus interest accrued.

The fair value of fixed maturities (Level 2), which consists principally of corporate and international bonds, is estimated using market price quotations (where observable), recently executed transactions or bond spreads of the issuer. If the spread data does not reference the issuer, then data that

references a comparable issuer is used. When observable price quotations are not available, fair value is determined based on cash flow models with yield curves or bond spreads.

The preceding is a description of the valuation methodologies used for assets at fair value. There have been no changes in the methodology used at December 31, 2018 and 2017.

The League's policy is to recognize transfers in and transfers out of levels at the actual date of the event or change in circumstances that caused the transfer. There were no transfers in or out of the respective levels during the years ended December 31, 2018 and 2017.

The preceding methods may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, although the League believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

Note 6 - Land, building and equipment

Land, building and equipment, and related accumulated depreciation are comprised of the following at December 31, 2018 and 2017:

	2018	2017
Land and building	$ 1,094,693	$ 1,094,693
Furnishings, equipment and building improvements	4,279,541	4,512,340
Computer software	2,073,306	2,073,306
	7,447,540	7,680,339
Less accumulated depreciation	(6,272,212)	(6,339,366)
	1,175,328	1,340,973
Construction in progress	409,560	375,273
Total	$ 1,584,888	$ 1,716,246

Note 7 - 403(b) plan

The League has The ARRL, Inc. 403(b) Pension Plan. Employees are eligible to participate in the plan immediately upon employment. After an employee has worked for 6 months, the League provides a contribution of 2% of the employee's compensation and will match any elective contributions made by the employee up to the employee’s contribution of 4% of their compensation. The match was one dollar for every dollar contributed by the employee in 2018 and 2017. Total employer contributions were $286,246 and $272,956 in 2018 and 2017, respectively.

Note 8 - Board-designated net assets

The League's Board of Directors' intent is to treat bequests without donor restrictions over a specific amount as funds functioning as an endowment. Since the beginning of 2004, the League has received bequests in the amount of $6,293,139. As of December 31, 2018 and 2017, the balance of the bequests, inclusive of investment income and unrealized gains and losses, was $8,665,279 and $8,936,839, respectively.

Note 9 - Net assets with donor restrictions

Net assets with donor restrictions as of December 31, 2018 and 2017 were available for the following purposes:

	2018	2017
Funds restricted for time or purpose		
Exceptional merit	$ 1,344,515	$ 1,440,809
Other specific purposes	1,168,828	1,347,798
Education and research	429,806	418,050
Total funds restricted for time or purpose	2,943,149	3,206,657
Funds restricted in perpetuity		
Second Century fund	3,131,569	3,149,481
W1AW fund	596,002	592,376
DX Log Archive fund	229,390	229,390
Youth and Education fund	237,189	217,189
Colvin fund	154,340	154,340
Dave Bell, W6AQ fund	134,864	134,864
Snyder Collegiate fund	100,000	100,000
Total funds restricted in perpetuity	4,583,354	4,577,640
Total donor restricted net assets	$ 7,526,503	$ 7,784,297

In 1993, the League became entitled, as beneficiary, to proceeds from a life insurance policy on one of its members, the Colvin fund. This endowment specifies that the principal is to be maintained in a fund and invested for the purpose of producing future income. The income from this endowment will be expended to reward deserving radio amateurs.

In 2002, an endowment fund was established for W1AW maintenance and upkeep.

In 2011, the League started the Second Century Campaign. This campaign was established for the purpose of defining a path to passionate involvement in amateur radio by new generations, and providing opportunities for educational enrichments, community service and personal achievement.

In 2012, the League became entitled to a bequest for the Youth and Education fund. This endowment specifies that the principal is to be maintained in a fund and invested for the purpose of producing future income. The income from this endowment will be used to support education and technology initiatives.

In 2014, the League received a donation to establish the DX Log Archive fund. This endowment specifies that the principal is to be maintained in a fund and invested for the purpose of producing future income. The income will fund the creation and management of the DX Log Archive Program for paper DX logs for rare and significant DXpeditions.

In 2015, the League became entitled to a bequest to establish the Dave Bell, W6AQ fund. This fund specifies that the principal is to be maintained in a fund and invested for the purpose of producing future income. The income from this endowment will be used for the League's programs and operations in the best interests of the Amateur Radio Service as determined by the League.

In 2017, the League received a donation to establish the W1YSM Snyder Family Collegiate Amateur Radio Endowment fund. This endowment specifies that the principal is to be maintained in a fund and invested for the purpose of producing future income. The income from this endowment will be used to support the League's Collegiate Amateur Radio Initiative activities.

Note 10 - Endowment

The League's endowment includes both donor-restricted endowment funds and funds designated by the Board of Directors to function as endowments. The donor-restricted funds include the permanently restricted corpus and the net appreciation of the fund. Funds designated by the Board of Directors as restricted to purpose or time are also included in the Organization's endowment and are reported as net assets without donor restrictions. The Board of Directors has interpreted the Connecticut Uniform Prudent Management of Institutional Funds Act ("CTUPMIFA") as requiring the preservation of the fair value of the original gift as of the gift date of the donor-restricted endowment funds absent explicit donor stipulations to the contrary. As a result of this interpretation, the League retains in perpetuity (a) the original value of the initial and subsequent gift amounts (including contributions receivable net of discount and allowance for doubtful accounts donated to the Endowment and (b) any accumulations to the endowment made in accordance with the direction of the applicable donor gift instrument at the time the accumulation is added. Donor-restricted amounts not retained in perpetuity are subject to appropriation for expenditure by use in a manner consistent with the standard of prudence prescribed by CTUPMIFA.

In accordance with CTUPMIFA, the League considers the following factors in making a determination to appropriate or accumulate donor-restricted endowment funds: (1) the duration and preservation of the various funds, (2) the purposes of the League and donor-restricted endowment funds, (3) general economic conditions, (4) the possible effect of inflation and deflation, (5) the expected total return from income and the appreciation of investments, (6) other resources of the League and (7) the League's investment policies.

Changes in endowment net assets for the year ended December 31, 2018 are as follows:

	Without donor restrictions	With donor restrictions	Total
Endowment net assets, January 1, 2018	$ 8,936,839	$ 5,363,607	$ 14,300,446
Investment income, net	246,500	50,759	297,259
Net unrealized loss	(519,597)	(292,206)	(811,803)
Contributions	1,537	5,714	7,251
Amounts appropriated for expenditure	-	(34,790)	(34,790)
Endowment net assets, December 31, 2018	$ 8,665,279	$ 5,093,084	$ 13,758,363

Endowment net asset composition by type of fund as of December 31, 2018 is as follows:

	Without donor restrictions	With donor restrictions	Total
Donor-restricted endowment funds	$ -	$ 5,093,084	$ 5,093,084
Board-designated endowment funds	8,665,279	-	8,665,279
Total funds	$ 8,665,279	$ 5,093,084	$ 13,758,363

Changes in endowment net assets for the year ended December 31, 2017 are as follows:

	Without donor restrictions	With donor restrictions	Total
Endowment net assets, January 1, 2017	$ 7,179,296	$ 4,999,790	$ 12,179,086
Investment income, net	193,925	39,025	232,950
Net unrealized gain	515,441	312,491	827,932
Contributions	1,048,177	126,433	1,174,610
Amounts appropriated for expenditure	-	(30,949)	(30,949)
Net assets released	-	(83,183)	(83,183)
Endowment net assets, December 31, 2017	$ 8,936,839	$ 5,363,607	$ 14,300,446

Endowment net asset composition by type of fund as of December 31, 2017 is as follows:

	Without donor restrictions	With donor restrictions	Total
Donor-restricted endowment funds	$ -	$ 5,363,607	$ 5,363,607
Board-designated endowment funds	8,936,839	-	8,936,839
Total funds	$ 8,936,839	$ 5,363,607	$ 14,300,446

From time to time, the fair value of assets associated with individual donor-restricted endowment funds may fall below the level that the donor requires the League to retain as a fund of perpetual duration. There were no deficiencies of this nature reported in unrestricted net assets as of December 31, 2018 and 2017.

Note 11 - Lease obligations

The League leases warehouse space and office equipment under operating leases with monthly payments ranging from $77 to $4,265, which expire at various times through May 2021. Total operating lease expense was $124,669 and $137,010 for the years ended December 31, 2018 and 2017, respectively.

The following are future minimum lease payments due under noncancelable operating leases as of December 31, 2018:

2019	$	56,935
2020		56,935
2021		24,203
Total	$	138,073

Note 12 - Concentrations

Credit risk

Financial instruments, which potentially subject the League to concentrations of credit risk, consist primarily of cash, pledges and trade receivables. The League maintains its cash with high-credit quality financial institutions. At times, such amounts may exceed the federally insured limit. At December 31, 2018, the Company had approximately $1,385,000 in excess of federally insured limits.

The League believes that the concentration of credit risk in its trade receivables is substantially mitigated by the League's credit evaluation process, relatively short collection terms and the financial stability of the larger customers comprising the League's credit base. The League does not generally require collateral from customers. Pledges receivable are comprised primarily of commitments from individuals who are members of the League. The League evaluates the need for an allowance for doubtful accounts based upon factors surrounding the credit risk of specific customers, historical trends and other information.

Market risk

The League invests in various debt and equity securities. These investment securities are exposed to interest rate, market, credit and other risks depending on the nature of the specific investment. Accordingly, it is at least reasonably possible that these factors will result in changes in the value of the League's investments which could materially affect amounts reported in the financial statements.

Note 13 - Related party transactions

The League has some common directors with The ARRL Foundation, Inc. The League performs administrative services for The ARRL Foundation, Inc. and was reimbursed for these services in the amount of $15,000 for the years ended December 31, 2018 and 2017.

Note 14 - Functionalized expenses

The financial statements report certain categories of expenses that are attributed to more than one program or supporting function. Therefore, expenses require allocation on a reasonable basis that is consistently applied. The expenses that are allocated include occupancy, which is allocated on a square footage basis, as well as salaries and wages, benefits, payroll taxes, professional services, office expenses, information technology, interest, insurance, and other, which are allocated on the basis of estimates of time, effort, and utilization.

The American Radio Relay League, Incorporated

Supplementary Information
Restricted Funds for Time and Purpose Summary
Year Ended December 31, 2018

Fund name	Balance January 1, 2018	Redesignations	Contributions	Investment income, net	Unrealized loss	Released from restriction	Balance December 31, 2018
H.P. Maxim Award	$ 42,214	$ -	$ -	$ 1,147	$ -	$ -	$ 43,361
Exceptional Merit	1,440,809	-	-	27,477	(83,771)	(40,000)	1,344,515
Legal Research and Resource	191,902	-	13,066	-	-	(230)	204,738
Starr Technology	2,721	-	-	-	-	(2,721)	-
ARRL SAREX	6,709	(6,709)	-	-	-	-	-
Educational Activities	3,580	(3,580)	-	-	-	-	-
Ham Aid Fund	110,687	-	6,491	-	-	(3,482)	113,696
Defense of Frequencies	-	-	287,160	14,365	-	(301,525)	-
Lab Fund	15,799	-	5,224	-	-	-	21,023
Education and Technology	386,755	10,289	134,935	9,419	-	(118,604)	422,794
Steven Rich Fund	10,000	-	-	-	-	-	10,000
Direction Finding	1,334	-	-	-	-	-	1,334
Fred Fish Awards Fund	1,320	-	-	-	-	-	1,320
Legislative Issues Advocacy Fund	65,552	-	8,474	-	-	(3,990)	70,036
Preservation of Artifacts	141,304	-	60,372	-	-	(1,079)	200,597
Colvin Fund earnings	44,918	-	-	6,463	(10,668)	(5,000)	35,713
W1AW Fund earnings	204,209	-	-	24,854	(42,987)	(22,324)	163,752
Youth and Education Fund earnings	27,715	-	-	-	(13,993)	-	13,722
Capital Campaign Fund ("CCF") earnings	444,388	-	-	110,544	(196,781)	(110,544)	247,607
CCF Earnings - DX Log Archive	41,376	-	-	9,607	(14,381)	-	36,602
Dave Bell , W6AQ Fund earnings	13,538	-	-	5,647	(7,827)	(5,647)	5,711
Snyder Collegiate Amateur Radio earnings	9,827	-	-	4,188	(5,569)	(1,818)	6,628
Total restricted funds for time and purpose	$ 3,206,657	$ -	$ 515,722	$ 213,711	$ (375,977)	$ (616,964)	$ 2,943,149

See Independent Auditor's Report.

The American Radio Relay League, Incorporated

Restricted Funds for Time and Purpose Summary
Year Ended December 31, 2017

Fund name	Balance January 1, 2017	Redesignations	Contributions	Investment income, net	Unrealized gain	Released from restriction	Balance December 31, 2017
H.P. Maxim Award	$ 41,228	$ -	$ -	$ 986	$ -	$ -	$ 42,214
Exceptional Merit	1,358,695	-	-	24,566	97,548	(40,000)	1,440,809
Legal Research and Resource	178,728	-	13,884	-	-	(710)	191,902
Starr Technology	2,721	-	-	-	-	-	2,721
Rinaldo Technology	1,000	(1,000)	-	-	-	-	-
ARRL SAREX	6,709	-	-	-	-	-	6,709
Educational Activities	3,580	-	-	-	-	-	3,580
Ham Aid Fund	14,041	-	180,864	-	-	(84,218)	110,687
Defense of Frequencies	-	-	312,861	14,381	-	(327,242)	-
Lab Fund	10,211	-	5,588	-	-	-	15,799
Education and Technology	272,247	1,000	254,315	7,594	-	(148,401)	386,755
Steven Rich Fund	10,000	-	-	-	-	-	10,000
Direction Finding	1,334	-	-	-	-	-	1,334
Fred Fish Awards Fund	1,320	-	-	-	-	-	1,320
Legislative Issues Advocacy Fund	40,975	-	49,523	-	-	(24,946)	65,552
Preservation of Artifacts	36,656	-	106,949	-	-	(2,301)	141,304
Colvin Fund earnings	34,424	-	-	5,761	11,733	(7,000)	44,918
W1AW Fund earnings	154,602	-	-	22,031	46,650	(19,074)	204,209
Youth and Education Fund earnings	13,698	-	-	-	14,017	-	27,715
Capital Campaign Fund ("CCF") earnings	233,849	-	-	94,601	210,539	(94,601)	444,388
CCF Earnings - DX Log Archive	18,506	-	-	8,562	15,095	(787)	41,376
Dave Bell , W6AQ Fund earnings	5,080	-	-	5,034	8,458	(5,034)	13,538
Snyder Collegiate Amateur Radio earnings	-	-	5,243	2,671	6,001	(4,088)	9,827
Total restricted funds for time and purpose	$ 2,439,604	$ -	$ 929,227	$ 186,187	$ 410,041	$ (758,402)	$ 3,206,657

See Independent Auditor's Report.

Basis and Purpose of the Amateur Service

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.

b. Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.

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.

d. Expansion of the existing reservoir within the amateur radio service of trained operators, technicians and electronics experts.

e. Continuation and extension of the amateur's unique ability to enhance international goodwill.

Title 47, Code of Federal Regulations

ARRL The national association for AMATEUR RADIO®

225 Main Street, Newington, CT 06111-1400
860-594-0200 Phone
860-594-0259 Fax

www.arrl.org

hq@arrl.org