



Radio Scouting is the intersection of **Scouting** and amateur **radio**. We introduce **Scouts** to the fun, technology and magic of **STEM & amateur radio**.

2020 HamCation Youth Forum Presentation by Ken Lyons, KN4MDJ on local youth scouting programs.

Amateur Radio has been a part of scouting since its formation in 1908 with the first troops. Amateurs started experimenting with radio well before the First World War in these early years.

A number of Scout troops, for example the 1st Arundel and the 3rd Altrincham, held transmitting licenses in the early 20s.

**Radio in scouting
predates the BSA!**



Knocked Down, The Trek Cart, Forms a Table, a Shelter, and an Aerial Radio Mast. - 1908

Baden Powell was of the opinion that wireless **was an excellent interest** for youth and **encouraged them to take it up.** He saw that it would be an essential form of communication for use in emergencies. Some troops even had mobile stations using their trek carts, in addition to the equipment in their Scout hut.

Our program was restarted in 2018 and has quickly expanded. We aim our program on the education/STEM side showing the technologies and radio spectrum. Events are held nearly monthly with about 2,000 scouts on popular council weekends.

Jamboree on the Air (JOTA), is an international Scouting and Guiding activity held annually. Started on the fiftieth anniversary of Scouting in 1957, it was devised by Leslie R. Mitchell, a radio amateur with the callsign G3BHK.

JOTA Jamboree-on-the-air

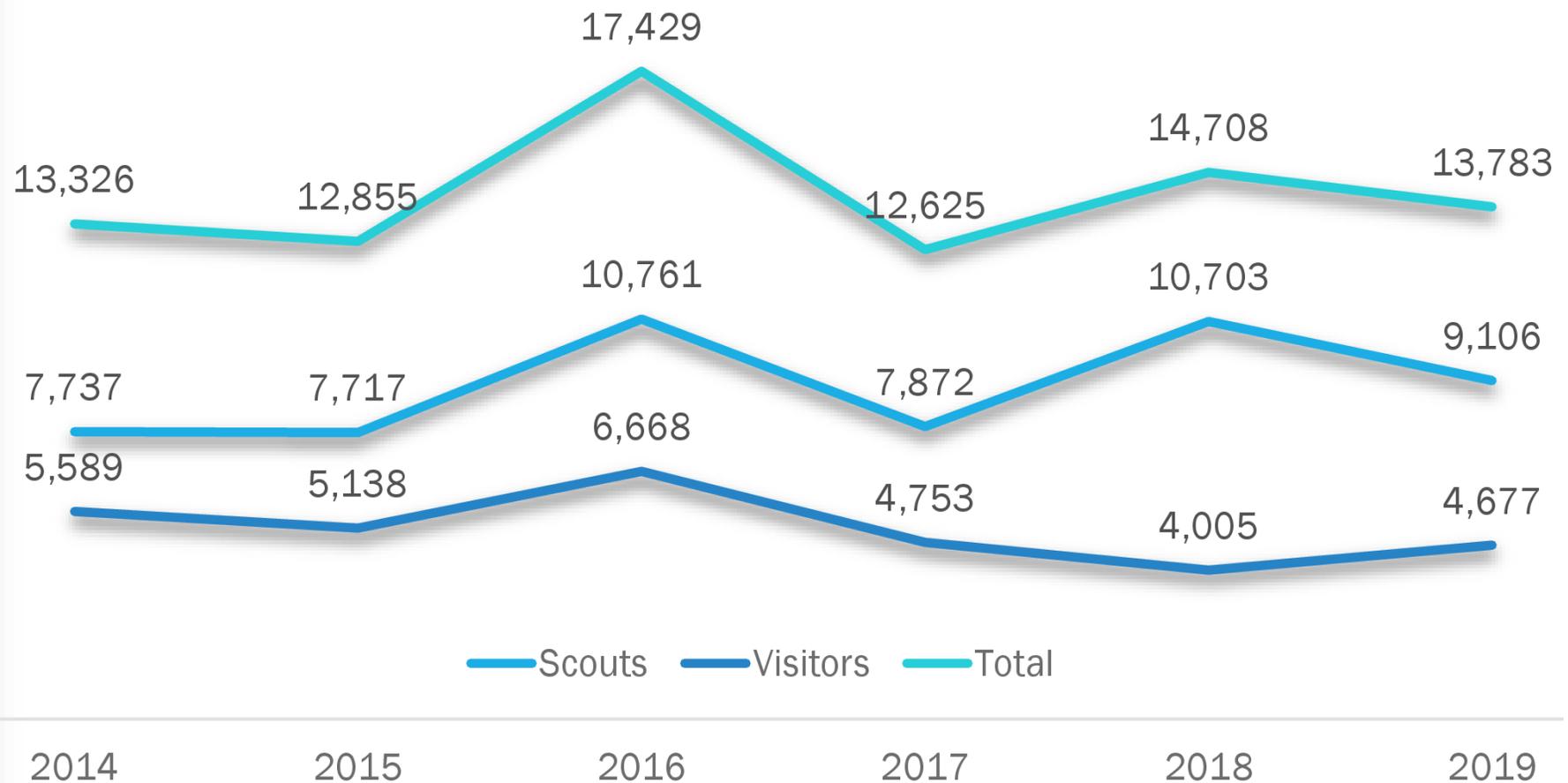


KN4LSY Larry Schnaudigel works on the JOTI laptop while a cub shares a QSO with KN4MQR Justin Sligh. Jota is the 3rd weekend of October every year since 1958

JOTA Jamboree-on-the-air – National Numbers

INCREASED PARTICIPATION BY STATION

While the reported numbers show a slight fall in overall participation, our calculations show that each station averaged an additional 13 people in attendance over last year. This shows an aggregate increase of 24% attendance per station even with our reported stations being down from 266 in 2018 to 201 in 2019.



Our combined JOTA/JOTI Stats

2018: 1,010 participants

2019: 1,503 participants

Scouts BSA: 78

Cub Scouts: 693

Sea Scouts: 1

Scouts Total: 772

Visitors: 731 (Parents/leaders)

Amateur Radio Operators: 6

Staff Volunteers: 20

166 QSOs [conversations with others
~3-10min shared among a half dozen scouts at a time.]

37 Countries

15 US States (FL, IA, IL, IN, KS, MA, MI,
MN, MS, ND, NJ, NY, OH, PA, TX)

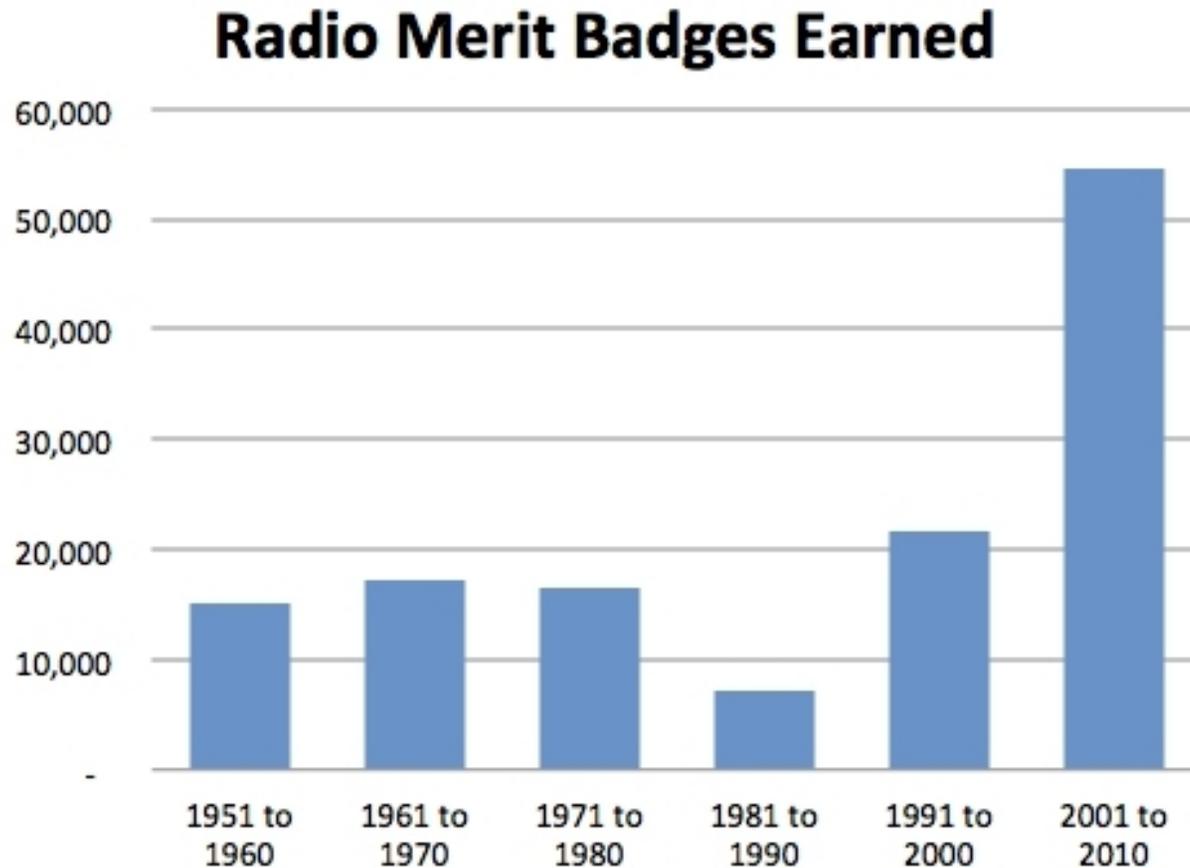
**During 2019 we presented our program
before 12,300 scouts at our council events.**





All our participants learn how to do SOS in Morse Code.
In **Oct 2019** we exposed over **7,800 scouts** to
Ham radio, Morse code, ARDF, and
the Lego build game using FRS walkie-talkies.

Radio Merit Badge starts the road to getting an FCC license.



We use JOTA and our events as an introduction followed by rank advancement with the **Radio Merit Badge**, about 7,000 **Scouts** nationally earn the badge each year.

We are on target for ~200 Radio Merit Badges in 2020.

wB4SA 2020 Program outline

Feb 8 - HamCation Radio Merit Badge

March 7 – Radio Merit Badge - Orlando

March 28 – Radio Merit Badge – Melbourne (FIT, FL Tec)

April 18 - Steam Wars (competitive)

May 16 - Pioneer Days, CW (telegraph setup)

June six weeks of summer camp

Oct every weekend (ARDF, CW, ham, tech)

Oct JOTA on 3rd weekend

Lego FRS Build (a communications skill game)

One goal is to provide a free HT to all new FCC Techs.

Our **Scout HamBox** Project is for scouts moving from FCC Tech to General class.



Our wB4SA Council Radio Scouting program covers 26,000 scouts in 9 counties in Central Florida. Some neighboring councils have shown interest in restarting their programs.

If we get enough ham support in those areas they could also be restarted. Local support is key to our success (OARC & LARA).

Our scouting youth are eager to learn but we need the **support** of local clubs, hams, elmers along with funding and equipment.

A long-term goal is to roll-out VHF radios to patrol leaders at camp outs, replacing $\frac{1}{4}$ watt FRS.



wB4SA Referral Service

We are currently working on a national list of all BSA councils with active radio scouting programs for inter-council events and assistance on our homepage, www.RadioScouting.US

We are also working on a national **ham referral list** for troops and scouts seeking ham assistance for demos, field day & jota in their local community. We can quickly match hams that volunteer to assist by zip code to troops requesting assistance.

We get dozens of contacts every October from troops outside our area in need and usually it takes too long to co-ordinate through the ARRL and local clubs with monthly meetings. By having a list of hams for every zip-code, already willing to assist scouts in their community, we can quickly connect the two.

Signup at: www.RadioScouting.US/J

WIRELESS WONDER AGED 14 AMAZES SENATE COMMITTEE

Young W. E. D. Stokes, Jr., Glibly Discussed Radio-Activity and Modern Electricity in a Way That Made Staid Solons Wonder.



PHOTO © BY UNDERWOOD LINDENWOOD

N. Leavers, 149 Clinton Street, Brooklyn, N. Y.

ONE of the reasons why W. E. D. Stokes, Jr., the fourteen-year-old President of the Junior Wireless Club of America, Ltd., led a delegation of his organization down to Washington last week to oppose the passage of the Dewey bill for the regulation of radio communication, was to take a hack at what he said was the "communication trust" of this country. His mission was considered a success by many of his elders, who ought to know. He is the youngest pleader that ever appeared before a Senate committee.

He is at once the youngest orator who ever appeared before a Senate committee to argue on a bill, and undoubtedly the youngest self-confessed trust-buster in the world.

Some night soon, perhaps this week, the thirteen charter members of the Junior Wireless Club of America, Ltd., will get together in the Ansonia Hotel, Broadway and Seventy-third Street, and will there felicitate the organization, over a dinner, upon the first hack taken at what they call the "communication trust," and upon the prospects for their continued use of the air, of which it was the purpose of the "trust" through this bill, to deprive them, they declare.

W. E. D. Stokes, Jr., called Weddy, as his father was also called in his younger days—rode back from Washington, triumphant Friday afternoon, having just missed a dinner at the White House at the invitation of the President. At 9 o'clock Friday night he was found in his workshop at the southeastern corner of the sixteenth floor of the Ansonia Hotel, among a tangle of apparatus of all kinds. Stretched all the way across one end of the room was a blue Yale flag, toward which the young inventor inclines strongly.

As Harvard got young Sticks, the mathematical and philosophical prodigy, so Yale will probably get this prodigy of physical science.

One side of the room was taken up with the wireless telegraphy and wireless telephone instruments. It was not too machinery, but full-sized apparatus, with the appearance of having been made for business purposes.

With an ease and swiftness born of exceedingly familiarity with the instruments, the boy connected a wire here and there, turned a few screws, and prepared to see what he could catch out of the air from the members of his club, who have a key which enables them to talk with one another without interfering with other operators, so President Stokes says.

"Oh, I suppose James had set up the new aerial while I was gone," he explained to a friend who knew all about his wireless experiments. "I told him to take down the old aerial on the roof with the antenna and put up that better one, so that I wouldn't lose any time. You see, we got back earlier than we expected, and I suppose he didn't finish his work. I thought of going to the roof and looking after the thing when I came home to-night, but I think it would be a diabolical job up there."



George Manley with Some of His Home Made Apparatus.

day night, got out there before his elders and had a few words by himself.

"Well, what success did you have with the Dewey bill?" he was asked.

"Oh, fine, we think," he answered, restlessly playing with a string of electric light bulbs that lay on the floor. "I didn't think they ought to be there, and so he hid them in a corner."

"Well, what is the Senate committee going to do about it?" he was asked.

"Which shows that the youngster doesn't know nearly so much about Senate committees as he does about aerials, kilowatt coils, and the like. Finally he leaped on a bicycle, which sat against the wall, and went racing through the winding hallways."

After a while he was pinned down to a talk about his wireless work and the expedition down to Washington. About four years ago, he went on, he became interested in electricity, which he encountered in the course of his regular studies. It attracted him powerfully, and he pursued it diligently.

"You see, one thing leads up to another," he explained, "and I just naturally came on up to wireless telegraphy and telephony. That seemed to give me plenty of room to work in. I have invented a good many electrical appliances. Patents have been granted on five or six of them."

Miss E. L. Todd of 121 West Twenty-third Street, the earliest woman to devote herself to heavier-than-air flying machines in this country, gave young Stokes considerable instruction in his studies. She is the Honorary President of the Junior Wireless Club of America, Ltd., and has an apparatus near her rooms with which she talks to the club members.

"I built up a station here—"



Ralph S. Bolton, 261 Stuyvesant Avenue, Brooklyn, a Wireless Worker.

W. E. D. Stokes, Jr., the 14-year-old President of the Junior Wireless Club. (In picture above.)

There are thirteen charter members, and every one of them has apparatus of his own. We usually talk to each other early in the night. I am the President, George Elitz of 441 West Forty-seventh Street, is Vice President, Fatouie Mansour, out in East Orange, is Recording Secretary, and Frank King, up at 205 West 100th Street, is Secretary, and Frederick Seymour, who also lives in East Orange, is Treasurer.

"Do you know, there are between 25,000 and 40,000 wireless experimenters

time," he said, "before men will be able to carry around with them in their automobiles or aeroplanes wireless telephone outfits. With these they should be able to talk to people having like instruments within a radius of fifty miles. Miss Todd has planned to put a wireless apparatus on her aeroplane, but she hasn't gone up in it yet."

"If the communication trust is allowed to go as far as it likes, all the wireless instruments will be gobbled up so you can't buy one by the time science has

operators, he told of a boy who on visiting a wireless station some months ago found a new operator packing up his things to leave. The operator said there was something radically wrong with the station, which would have to be attended to by an expert. The boy, went on young Stokes, located the trouble in a few minutes and set things going. It later developed that he was the boy."

"About a month ago we heard about the bill that looked like it would result in monopolizing the air for professional wireless operators and companies," went on the boy, "and we decided we had better send a delegation down to Washington to argue before the Senate Committee on Commerce and Labor. George Elitz, Frank King Ernest Amey, and myself decided that we would go down. We left here on Wednesday, and arranged for a hearing on Thursday."

"There were a lot of other amateurs from all over the country down there to

argue against the bill as it now is, and a good many representing the profession. The man who spoke just before I did was over six feet tall. He was an amateur, too, and he thought that the bill would cut us out of the air, if he obeyed the letter of the law."

"As a matter of fact, it would require an army of wireless Government inspectors to enforce the law, and it would take a whole lot of money. It would require the building all over the United States of a double system of wireless stations in every locality, so as to take the triangulation, to locate the offender. For a wireless aerial will be just as operative if strung within a house (in the cellar, or any portion of the house) or along the eaves of the house, as it will in the air."

"It is just as easy to conceal the aerial as it is to conceal the operator. With the new methods of radio transmission, the location of the operator could be absolutely concealed. There would be no noise, no spark, to indicate his location. He might have a dozen aerials, a mile apart, which would only cost from \$2 to \$5 each, connected to some one locality, or a dozen localities, where the operator could be concealed; and while the engineers were trying to locate one apparatus by triangulation the offender could be operating another one a mile away, or two miles away. And it would require the co-operation of several skilled radio engineers to locate each apparatus."

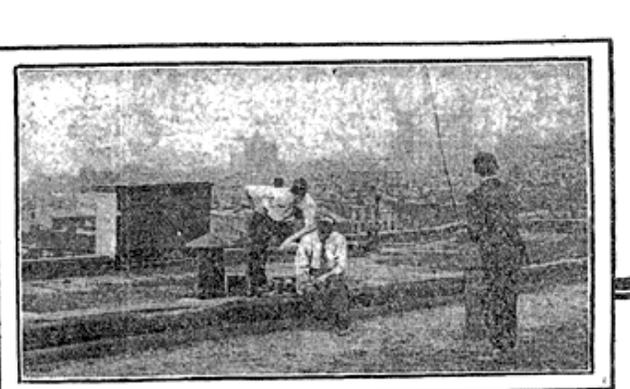
"To substantiate this statement, any of us would guarantee to prove that it would take at least a month for the Government aerial engineers' detectives to discover our location for the engineering calculations would be so intricate it would take days to locate the exact position of the offender."

"If our Government prepared to establish a Detective Bureau of Wireless Police, which would fully examine, if not more

Japan, England, Russia, and Germany excel this country in their wireless systems. "The messages of the British Admiralty sent on a uniform wave length and in a secret code cannot be made out by those for whom it is not intended," he said.

"The system of wireless on our battleships should be such that every ship could send 1,000 miles and receive 2,000 miles, and two or three special ships of each fleet should be able to send 2,000 miles and receive 4,000, so that no fleet of our Government would be out of range of Washington, in which city should be established the very best possible type of central station."

"Every ship should have an apparatus of the same up-to-date type, instead of the many different antiquated systems now in use, most of which lack means of cutting out interference, and which use wave lengths varying from 450 to 1,000 metres, as you can see from consulting the United



A Group of Wireless Operators Receiving Messages.

States Government report of Oct. 1, 1909.

"Our Government should use a uniform wave length and a secret code for transmitting Government messages, and with the proper kind of instruments, they would have no complaint to make of interference from private or public stations."

"Mr. Chamberlain, Commissioner of the Bureau of Navigation, Department of Commerce and Labor, in a letter to us March 12, 1910, says that Admiral Sperry told him recently that he was in constant communication with Washington in the round-the-world cruises until he got within two or three days of the home shores. We believe that the Admiral's wireless operators did not represent things to be quibbled at they were. We know the official Government report, previously quoted, states that the Connecticut had on board at the time the instrument of the antiquated Sphenacoker type, having only a 3 K. W. transformer."

"Any expert will tell you that an instrument of only 3 K. W. transformer could not, under the most favorable conditions send over 450 or 500 miles, more probably only about 400 miles on the average. With this instrument an operator could not possibly cut out interference or work with equal efficiency under all atmospheric conditions at all hours of the day or night, and at all seasons of the year. Surely the operator misled the good Admiral as to the real cause of trouble in communicating. Why, to-day most all the ocean steamer messages are transferred or relayed from ship to ship within a radius of 500 miles at most."

"We amateurs are blamed for much that we do not do. The cases where amateurs actually interfere are few and exaggerated. In many cases antiquated apparatus and incompetent professional operators are responsible for the trouble, which would be fully examined, if not more

Youth saves Amateur Radio in the US - 1910 & 1912

This 14 year old kid, W. E. D. Stokes, Jr. (1910):

- President of the Junior Wireless Club,
(later renamed to Radio Club of America, RCA)
- held patents relating to wireless communication.
- 1910 no commercial radio stations (1923)
- no FCC to regulate the airwaves (1934)
- estimated 25,000 to 40,000 US amateur wireless operators

New York Senator Chancey Depew (R) had introduced a bill that would restrict the use of airwaves, posing a threat to the radio club's hobby. So the club sent their president down to Washington to **testify before Congress**. At the time, **he was the youngest person to do so**. Fought the same bill again in 1912 and won.

Membership Drive

We are a youth club with the long term goal of being 95% youth based as we expand our program. We are currently seeking to grow **our base above 1,000 members** to take advantage of several **grants and advertising** options through our monthly club newsletter.

All our services and programs are **provided free of charge to scouts** and the BSA council(s). We are currently funded by our volunteers and small grants and donations from the community.



Program Potential

Our program touched the lives of over 12,300 scouts last year and our Radio Merit Badge requests have exploded in 2020. We have the potential to get hundreds of youth licensed in the next year and our goal of providing free starter equipment is very cost prohibitive. Those youth will begin their brand loyalty based on that starter equipment.

If our program is rolled-out nationally that could mean thousands of newly licensed scouts each year through summer camps and scheduled council events. Youth that the ham community has been begging for.

We've expanded our program to assist ham clubs in other areas and councils to recreate our program. We just need to keep the momentum going so that it grows beyond our council and through the rest of the country.

ARRL Club Classes

1. Local Amateur Radio Club.
2. Regional or national organized Amateur Radio group.
3. Local school or **youth group** or Amateur Radio Group in homes for the elderly or disabled.
4. Group of Amateur Radio clubs joined together in a common purpose.

In category 1 and 2, at least 51% of the voting members must be Full or Associate members of the League, and at least 51% of the voting members must be licensed radio amateurs. Note that this is voting members, not necessarily total members.

In category 3, the name of the club must clearly show the school or youth group nature of the club, such as the Boy Scout Troop 345 Amateur Radio Club, or the Taft School Amateur Radio Club. In this case, **only the club sponsor, faculty advisor, trustee or president needs to be a League member and a licensed amateur**. Homes for the elderly or disabled must have one ARRL member who is the president, trustee, sponsor or advisor.

In category 4, at least 51% of the member clubs must be actively affiliated with the ARRL for affiliation status to be granted.



Youth: 2.4 million youth (2019)
Peak: 1973, 4 million youth
Adults: 1 million volunteers
Councils: 272
Youth Units: 100k+
Just 1% = 24,000

Radio Merit Badge: 7,000/yr

K2BSA Members: 506 (BSA national)

wB4SA Members: 137

hoping for 1000+ (grant threshold)



ARRL Members: 161,000
ARRL Clubs: 2,481

FCC lics, "hams"

2018: 750,000

2011: 700,221

2001: 683,000

1991: 494,000

1981: 433,000

1971: 285,000

I've visited a number of clubs and talked to thousands of hams, everyone says the same two things...

1. We need more youth, everyone has gray hair.
2. The repeaters are dead. (get youth on VHF to solve it)

And here I am... screaming "**I have 2,000** [different] **youth almost every weekend that want to learn!**". And we are just 1 of 300 councils across the country, some are even larger.

Scouts out-number ARRL members **15:1** and all hams **3:1**

If we get just 1% youth interest that's 24k youth exposed to the Radio Merit Badge, if we capture 10% of those you have 2,400 licensed techs.

We need and desire...

hams to assist in running programs

receptive clubs to send them to, after licensed at camp

clubs & **ARRL** to **not charge dues** to under 18 youth!

– Ken, KN4MDJ

Suggested Membership Structure for clubs & ARRL

YOUTH / JUNIOR (<18)	STUDENT (18+)	ADULT	ASSOCIATE	ELMER / SENIOR
Licensed ham	Licensed ham	Licensed ham	General Public	Licensed ham
Non-Voting	Voting	Voting	Non-Voting	Voting
Free Dues	Reduced Dues	Full Rate Dues	Reduced Dues	Reduced Dues

Youth programs touch the lives of thousands of youth daily.

It's our job to provide exciting and interesting STEM programs that appeal to the youth at camp.

Interested youth need **your support** to continue their learning when they go home.

It's the local clubs that provide elmering for our youth. Don't make dues a hurdle that limits growth and learning.

Key points

GO TO WHERE THE YOUTH ARE!

We go to scheduled scouting events and become an additional activity of the program. Youth only visit for 10-15 minutes for the activity.

KEEP IT INTERESTING

We add or change up what we do on every event. This year we are adding POTA setups, expanding ARDF and GoBoxes. Drones/Sat/ISS attract youth! Waterfall displays and computers are key to many youth.

Ham is more than ARES, SSB, CW and old guys!



Q & A

**Support our program...
become a member,
supporter or just enjoy our
monthly newsletter as we
bring radio STEM to youth.**

www.RadioScouting.US/J

