The OVH ARC Newsletter OLE VIRGINIA HAMS" AMATEUR RADIO CLUB, INC.

Post Office Box 1255, Manassas, Va. 20108

OVH FM Repeaters - 146.970- & 224.660- & 442.200+ & 443.500+ OVH D-STAR Repeaters - W4OVH - 146.865- & 442.5125+ (temporarily - limited functionality)

Web Site at http://w4ovh.net

OLE VIRGINIA TIMES

November 2022

Upcoming Monthly Meeting: Tuesday, November 15, 2022

PRESIDENT'S LETTER:

Greetings to All, I hope that everyone had a happy and safe Halloween. I was going to say something about leftover candy, as if there would actually be any candy left over. But, never mind.

Today, November 11th is Veterans Day. As you probably know, originally Veterans Day was designated as Armistice Day in remembrance of World War I veterans. It has since evolved in the US to honor ALL veterans of our military services. So, I'd like to take a moment to thank all of our



members who have served, and also all who are currently defending, those who have served, and especially those who made the ultimate sacrifice. Thank You!

Our former VP Jeff / WB6UIE, always a fine writer, has written another very informative article for Veteran's Day about the WWII Radio Related History that took place in the nearby Prince William Forest Park. See, pages 9–11 below.

The first week of November was pleasant, but now the normal cold is upon us, and with that the leaves are dropping or have dropped. So, it would be easier to inspect any tree supported antennas you might have now. After that, you could deal with those leaves.

The last Tri-It-Now of the year was last month. Normally a quiet race with only minor events to report, this last one included a head injury that required Fire & Rescue to arrive. You can read John / KG4NXT's account on our web page "Why We Do It – 2022 Tri It Now "SEASON WRAP UP" or later in this Newsletter at pages 7–8 below. I'm grateful to the members this year who have helped make the Tri-It-Now events happen. I hope that we, the club, continue to have their support next year.

Ole Virginia Hams Amateur Radio Club, Inc.

Post Office Box 1255 Manassas, Virginia 20108

OFFICERS			EMAIL REFLECTOR	R — w4ovh@googleg	roups.com
President: Ken Brant	KN4DD	622-2638	John	KG4NXT	257-3566
Vice Pres: Tony Ohe	KM4KLB	596-2508	70m4		
Secretary: John Heartney	KG4NXT	257-3566	JOTA -		
Treasurer: Don Meyerhoff	WA2SWX	597-3211	vacant	_	
DIRECTORS			LEGAL	TZ (II ID	202 2471
Don (Butch) Blasdell	W4HJL	369-2877	Bob	K4HJF	282-2451
Arthur Whittum	W1CRO	791-4330	MEMBERSHIP CHA		
Charlie Dale	WA4YGI	361-3091	Luther	WA3FMO	361-4885
Bob Zaepfel	K4HJF	282-2451	NEWSLETTER		
WEEKLY FM REPEATER			Paul	W4ZB	754-0910
Thurs - 8:00 PM Local Time	JOHN /	257-3566	NEWSLINE FOR TH	IE WEEKLY NET	
Thurs 6,00 FW Local Time	KG4NXT	207 0000	John.	KG4NXT	257-3566
HAMFEST 2022 - Chairma	n		PROGRAMS		
Don	WA2SWX	597-3211	Jeff	WB6UIE	791-5916
FIELD DAY 2022			QUARTERMASTER		
Byron	AK4XR	222-2095	Open - volunteer need	ed!	
CLUB ROSTER / DATABAS	SE		REPEATER CONTRO	OLLERS	
Arthur	W1CRO	791-4330	John	KG4NXT	257-3566
			Ken	KE2N	753-8587
EDUCATION			George	K4GVT	791-5956
Mark	WA4KFZ	818-8033	Arthur	W1CRO	791-4330
CLUB EMERGENCY COO	RDINATOR		Butch	W4HJL	369-2877
Open - volunteer needed!			David Cat	KG4GIY KM4PBD	361-3042 571-213-2179
ARES - EMERGENCY COO	ORDINATOR		W40VH — TRUSTE		0,11 210 2110
David Lane	KG4GIY	703-628-3868	<u>W40VII — IIIOBIE</u>		
	email: KG4	GIY@arrl.net	Wayne	N7QLK	571-237-0520
Prince William County ARES	website http:	//pwcares.org	W4PVA — TRUSTE	EE	
FINANCE			Arthur	W1CRO	791-4330
Arthur	W1CRO	791-4330	SCHOLARSHIP 2022	2	
Mark	WA4KFZ	818-8033	Ken	KN4DD	622-2638
Don	WA2SWX	597-3211			
GENERATORS			SUNSHINE		
Byron	AK4XR	222-2095	Theresa	KG4TVM	257-3566
Al	KB4BHB	368-4794	TECHNICAL COMN	MITTEE	
HISTORIAN			Ken	KE2N	753-8587
Theresa	KG4TVM	257-3566	Andy	KJ4MTP	786-4651
WEB COMMITTEE — W4O			George	K4GVT	791-5956
			Arthur	W1CRO	791-4330
Kevin	W4RKU	540-445-5183	Butch Bob	W4HJL K4HJF	369-2877 335-1939
John	KG4NXT	257-3566	David	K4HJF KG4GIY	628-3868
Ken	KN4DD	622-2638	Gil	KM4OZH	369-0431
Web Committee "help request"	email: webmast	ter@w4ovh.net			200 0101

All telephone numbers listed above are for Area Code 703 unless otherwise noted. This is the official monthly publication of the Ole Virginia Hams Amateur Radio Club, Inc., a \$501(c)(3) organization, dedicated to the promotion and enhancement of Amateur Radio. Copyright © 2021 by the Ole Virginia Hams which holds its regular monthly meeting at 7:30 p.m. every third Tuesday at the Buckhall Volunteer Fire Department Station, 7190 Yates Ford Road, Manassas, Virginia except during the COVID pandemic (in 2020-2021) during which the monthly meetings are being held online. See the Newsletter for login details for monthly online meetings. Members, prospective members and other interested persons are invited to attend without obligation. Local information can also be obtained through the OVHs FM repeaters on 146.970-, 224.660-, 442.200+ and 443.500+ MHz. Up to date information about OVH activities and its meetings is also available during the OVH's nets on its FM Repeaters each Thursday night at 8:00 p.m. or through the OVH's web site at http://w4ovh.net Articles in this newsletter may be reprinted if credit is given to the OVH ARC and other source(s) noted. Proposed materials for publication, classified ads, notes about specific errors, complaints or the like are solicited. Forward such items to the Newsletter Editor: PAUL@W4ZB.COM. Approx. Circ.: 170. Last Rev: 20220921

Ina of the Tri-It-Now organization has been very appreciative of what the OVH does to assist her and has said so publicly, including in that same article, mentioned above.

Our monthly breakfast is a little earlier than usual this month, and will be on Saturday, November 12th at 8:00 AM at the Yorkshire Restaurant. Pioneered by Byron / AK4XR, we get together every Saturday before our meetings at a table or two in the back of the restaurant for good food and good conversation.

Our next regular OVH monthly meeting is upcoming quickly and will be on Tuesday, November 15th at the Buckhall VFD Fire Station beginning at 7:30 pm.

After that, on Saturday, November 19th, comes the first OVH sponsored VE Session in 13 months to be held at the Centreville Regional Library beginning at 8:00 am. More details on page 6 below. Thanks to Byron / AK4XR who rounded up the candidates and secured the location in and to John / KG4NXT who worked to set up this event.

Speaking of VE Sessions, John/KG4NXT has been the OVH's VEC Coordinator for years now, and he would like to take a break. Therefore, the Ole Virginia Hams are now looking for a volunteer to take over as VE Session Coordinator from John. Training and an enthusiastic cadre of Volunteer Examiners will be provided.

Thanksgiving, on Thursday, November 24th, is also the day for the annual Turkey Trot event. Wayne / N7QLK, is our Coordinator for that, and in need of six or seven spotters. Please contact Wayne to volunteer.

Additionally, I hope everyone will have a Happy Thanksgiving. Be careful if travelling during the holidays - stay safe.

The 76th Greater Manassas Christmas Parade will be on Saturday, December 3rd at 10 am this year. Planning is underway, but we still need volunteer spotters. OVH will be providing comms support for the parade as usual and the club trailer will be a part of it! Theresa, KG4TVM has already put a request out for volunteers to help decorate the club trailer, and it looks like yours truly will be driving that trailer. Please contact George, K4GVT via e-mail george@k4gvt.com to participate with comms support.

The last event for upcoming the Holiday season will be, of course, the OVH's World Famous Holiday Party to be held again at the Yorkshire Restaurant on Sunday evening, December 11th, for our meeting/party. For our new members, that means no regular monthly meeting in December. This is it. The party will run from 6 PM until 8 PM. More details later in this Newsletter on pages 4 and 6 below.

Also, a reminder to check in to the OVH's Thursday night VHF/UHF repeater net at 8 pm. The details to do that are on the OVH's web site at https://w4ovh.net This is a great way to stay in touch with other OVH members.

Questions, comments or war stories can be directed to my e-mail: KN4DD@arrl.net

73 Ken KN4DD

Sunshine Corner

Happy birthday wishes in November to our club members celebrating this month — Wayne / N7QLK, Kevin / W4RKU, Baofang / KK4JFK, Theresa / KG4TVM, Butch / W4HJL, Greg / KM4CCG, Jeff / WB4TT, Charlie / WA4YGI, Joe / AB4QV, James/N5TE, James / KA4BOL, Paul / K4GZR and Allan / (no call). Wishing you all a great day! If you have a birthday this month and are not listed, please let me know!

The Manassas Christmas Parade will be on Saturday, December 3rd. We are entered in the parade as a unit with the OVH club trailer. If you are available to decorate the trailer, please let me know at kg4tvm@hotmail.com or 703-257-3566. If you would like to work your radio providing communications during the parade, contact George / K4GVT who is coordinating communications throughout the parade route – george@k4gvt.com

The OVH Holiday Party will be on Sunday, December 11th at Yorkshire Restaurant. This is a family event; please bring a covered dish to share, main dishes and drinks provided. In addition, we will be collecting new, unwrapped toys for the Toys For Tots campaign. We have been approved to have two Marines attend our party!

Thanks to John / KG4NXT for providing the End Fed Wire Antenna program at last month's OVH club meeting. See the photo and more info for that on page 8 below.

Tri It Now Mini Tri – the last event was the end of October and several club members came out and provided radio communications for this event. See, the photo later in this Newsletter of those attending. Special shout out to Andy / KJ4MTP who he took on the responsibility for this event in December 2016. Andy has worked with the race coordinator to get the maps and schedules, as well as reaching out for each event for volunteers. The Mini Tri is not a one and done event each year, rather it has 5 or 6 separate events each year so this is a lot of work. Great job Andy!

POTA – Several club members are participating in Parks on the Air, for anyone interested in more info check out Parks on the Air | POTA or https://parksontheair.com You can also request information at the club meeting or on the email reflector.

Beginning on in the new year on January 1, 2023 Andrea / KI4SXM will be taking over the Sunshine Corner. Many thanks to Andrea for taking this on! Please send all of your information each month for this column to her at sunnybeach4us@gmail.com and give her your full support.

It has been my great pleasure reporting OVH club information in the Sunshine Corner for the last 15 years.

Happy Thanksgiving to all our club members and their families!

Don't forget the OVH's Thursday night VHF/UHF net at 8:00 pm each week. Please join us!



73 Theresa KG4TVM kg4tvm@hotmail.com

Minutes of the Ole Virginia Hams Amateur Radio Club Meeting held live on Tuesday, October 18, 2022:

OVH President Ken KN4DD called the meeting to order at 7:30 pm on Tuesday, October 18, 2022 in the training room at the Buckhall Volunteer Fire Department Station.

After the Pledge of Allegiance, all present stated their names and callsigns.

John / KG4NXT gave a program on end fed antennas. Links with information on practical construction details will be put out on the reflector. The video shown will not be put on the web site because of its large size – half a gig.

The minutes of the September 18, 2022 OVH meeting were approved as amended. The amendment was that Mark / WA4KFZ had submitted exam questions to the General pool as well as to the Extra pool.

Don / WA2SWX gave the Treasurer's report and it was approved.

Luther / WA3FMO gave the membership report. There was one new applicant for read-in: Pater Brown / KM4FTJ, to be voted on at the next regular meeting.

ARES: No report.

Training. Mark / WA4KFZ had no new developments to report. John / KG4NXT mentioned that Byron / AK4XR was looking for a room to hold the next VE session, hopefully in about a month.

Ken / KN4DD gave the scholarship report. No activity this month.

Don / WA2SWX gave the Hamfest report. He reported the club officers recommend having a tailgate instead of hamfest. There was discussion and a motion passed to have a tailgate instead of hamfest. Don will be chair of the tailgate. Don also suggested that we raise the club dues from \$20 to \$30 per year. There was discussion. Cat / KM4PBD wanted a raise only to \$25. The motion was amended to raise the dues to \$25 and it passed without opposing votes.

Field day report. Cat / KM4PBD is our new Field Day chairperson and received a round of applause.

Ken / KN4DD gave the web committee report. He reported all working but some occasional bursts of SQL injection attacks. None have succeeded yet.

Ken / KN4DD gave the JOTA report. Negotiations and discussions with the scouts have broken down. Rob Hoitt / W4FSK has resigned from the club. We are open to doing JOTA next year if we can reach agreement with the Scouts.

Theresa / KG4TVM gave the Sunshine report. She reported that Jack / N4YIC'S wife is in very bad health and the club is sending a card. James / KQ4CAX has become a VE. The Manassas Christmas Parade is Dec 3rd and the OVH will participte as in recent years. George / K4GVT will handle the volunteers for parade communicatins. Theresa also had the OVH trailer approved for the parade and needs someone to pull the trailer

in the parade. On December 11the, the OVH will have its year end holiday party at 6 pm at the Yorkshire Restaurant, with pot luck side dishes as usual. We will also be collecting toys for tots and have been promised two Marines.

Ken / KE2N gave the repeater report. All repeaters are working. During JOTA, the Scouts did use the OVH Dstar repeater.

Old Business: None

New Business: None.

The meeting was then adjourned.

Reminders about some upcoming events / calendar dates:

HAMFEST AND VE SESSION TYPE EVENTS:

The COVID pandemic has substantially wound down or completely ended, depending upon who you believe. Hamfests are being held again, but none nearby to report this month.

Saturday, November 19, 2022, beginning at 8:00 am at the Centreville Regional Library, 14200 St. Germain Drive, Centreville, Virginia 20121, a local VEC Examining Session will take place. Walk-Ins will be allowed and welcomed either to get a new Ham Radio License or an upgrade an existing license. Special thanks to the OVH Volunteer Examiners for putting on this VEC examination session.

OVH CLUB EVENTS:

Sunday, December 11, 2022, 6:00 PM on - year end Holiday Party at the Yorkshire Restaurant, 7537 Centreville Road, Manassas, Family event, Partly Pot-Luck, Save the Date - more next month.

HAM RADIO OPERATING / CONTEST EVENTS:

There are lots of on the air operating contests in the Fall each year and November is a big month for radio operating contest.

The ARRL has a Contest web page at its web site, but a much more comprehensive, up-to-date, and long range planning contesting calendar with links to the rules for the various events is maintained at http://contestcalendar.com by WA7BNM. This is a relatively new URL for this web site. If you get the radio contesting bug or just want to find out and how much is going on - a lot is going on, that is a very good place to look!

PUBLIC SERVICE / ARES EVENTS

Saturday, December 3, 2022 - Greater Manassas Christmas Parade for the 76th time. Keep this date on your calendar. The OVH will be participating again this year with coordination by George / K4GVT, email: george@k4gvt.com

Check the online Calendar on W4OVH.NET for information about upcoming OVH related events. Also, check the online Calendar maintained by David / KG4GIY at http://pwcares.org for the latest PWC ARES updates. Complete direct contact information for David also appears on page 2 of this Newsletter.

2022 Season Wrap Up for Tri It Now and Why We Do It!

October 25, 2022 by Ken "The Other Ken" Brant, KN4DD and John Heartney, KG4NXT

On October 23rd, 2022, the Ole Virginia Hams wrapped up its support for the 24th Annual Tri It Now season with its eponymous Tri It Now "SEASON WRAP UP". Below and to the right is a group photo of the OVH member who participated on October 23rd.

There are normally six
Tri-It-Now events per
season occurring either
on a Saturday or Sunday.
The OVH usually fields
five to eight volunteer
spotters. That is, we
are there to provide
eyes, ears and radio
communication support
throughout each event.
Normally, we spot riders
with broken down bicycles
and riders who haven't



trained enough, so they are suffering from sore limbs. I once took one rider with ankle pains and his bike which had 2 flat tires (related perhaps?) in my truck back to the finish line. In short, usually nothing serious happens.

What many of you do not see is that Ina, the event coordinator regularly calls out and thanks the W4OVH Ham Radio club and its volunteer operators at the morning briefings that she holds prior to each event to the event participants and that the participants regularly show their appreciation and applaud the W4OVH club and volunteers for their service to this event.

The race was scheduled to begin at 08:45. This is a later start than normal due to the fact that it is getting lighter later in the morning and the scheduling of the pool is last instead of first due to the increasingly cooler air.

We run a tactical net and our primary mission is eyes on the course to monitor and provide safety. In the event of an emergency we are to call 911 and THEN notify our Net Control via radio. We are to use the word "EMERGENCY" then describe event that happened (person fell, fainted, not feeling well, etc.). We are to never use the racer's real name, only use the racer's bib number which is a number pre-assigned to each participant. Only infrequently do we experience a real emergency.

On Sunday, October 23rd, we had a real emergency when bike rider fell in a bad fall and who then needed 911 support. Our ham radio operators on the course made a tremendous difference in getting that support quickly because rider had fallen on one of the distant, not easily seen parts of the course. Had there been no ham operator present, she would not have been attended to as quickly as she was.

John / KG4NXT saw a helmeted rider fall off her bike at the end of Innovation Drive. When she did not get up. John went to her and observed that despite the helmet, she

had blood coming down from her head and nose. She asked for medical attention. John called on the Net for medical assistance. Because George Mason had no standby medical help available, Erik / K4SOK responded.

Erik has extensive first aid training as a first responder from his days as a building engineer and working at Reagan Airport. He and his young son Diego left their checkpoint and came to the injured woman. Erik always carries a medical bag in his vehicle.

Erik assessed the woman and then called 911. He stayed with the 911 call while his son held the phone. He



made sure that 911 had dispatched. Additionally, the George Mason police also arrived at the scene and provided a pillow so her head was off the asphalt. The 911 call had an impressive response. Just a few minutes later, in rolled a fire truck, two ambulances and two Prince William County police vehicles in short order. See picture above.

There were plenty of paramedics and Erik stayed by the woman's side as they worked

on her. She was eventually put in one of the ambulances and transported to Prince William Hospital. After consulting with the George Mason police, Erik loaded her bike and helmet and visors to his vehicle and took them to The Freedom Aquatic & Fitness Center front desk so she could claim them later.

A special thanks to Erik Sokolowski / K4SOK, who performed as a first



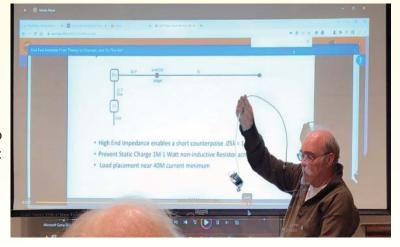
responder, along with John Heartney / KG4NXT, and Al Dugas / KB4BHB, for their prompt response and coordination of EMT/Medical/police support. I am confident that the fallen rider was transported and was able to be safely released after some attention to their treated wounds.

Some Notes from the 10/2022 End Fed Antenna Presentation by John/KG4NXT

9:1 transformer for random wire end feds: http://www.earchi.org and then go to: "Project Info" - "End Fed Antenna Matchbox"

49:1 transformer for a half wave end fed:
https://www.youtube.com/
watch?v=1BBg6vRybCo&t=120s
Use an SWR meter to cut your antenna wire to
the right length. Very good construction video!:

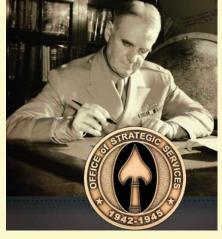
Use RF chokes to keep RF out of the shack https://www.dj0ip.de and then go to "RF CMC CHOKES" and CMC



Prince William Forest Park WWII Radio History

Conservation Corps in the 1930s, the park was originally designed as a get away for inner city youth during the Great Depression. Today its rustic cabins and idyllic trails are available for all to enjoy. There is an another interesting and, until recently, little known slice of the park's history - its role as a training site for OSS operatives during WWII.







BG Donovan

OSS drop from a B-24

America entered WWII with no national agency responsible for coordinating intelligence and covert action. Before Pearl Harbor, such activities were conducted piecemeal by the individual military services. President Roosvelt addressed this deficiency by creating the Office of Strategic Services (OSS) under WWI Medal of Honor recipient Brigadier General William "Wild Bill" Donovan. "The basic mission of the OSS was to obtain information and to sabotage the military efforts of enemy nations during WWII. . … The OSS specialized in dropping operatives behind enemy lines to carry out sabotage, demolition, counter propaganda, and disinformation activities. …" [1]

Donovan's team had its hands full standing up a brand new agency. In addition to recruiting, they needed to find secure locations to conduct training. A survey of potential sites considered several east coast locations. Prince William Forest Park with its existing cabins, dining hall, and other facilities was particularly suitable. It was conveniently close to DC, but just far enough away to remain secure in its secluded forest location.

Park ownership was transferred to OSS in 1942 and a large portion of it became "Area C", the school for OSS radio operators. Since most communications from the field would be in HF manual Morse, CW proficiency was a must. Additional courses covered basic radio operation and maintenance, antennas and propagation, and ciphers.

OSS Communicators

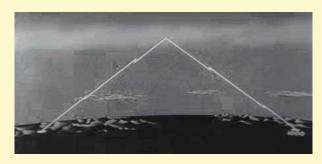
Classes



Morse Code Class

	Α	В	С	D	E	F	G	Н	Τ	J	K	L	М
1	t	u	v	w	х	у	z	а	b	С	d	е	f
2	h	i	j	k	1	m	n	0	р	q	r	s	t
3	0	р	q	r	s	t	u	٧	w	Х	У	z	а
4	m	n	0	р	q	r	s	t	u	٧	W	x	У
5	а	b	С	d	е	f	g	h	i	j	k	1	m
6	s	t	u	V	W	X	у	Z	а	b	С	d	е
7	b	C	d	е	f	g	h	i	j	k	1	m	n
8	b	С	d	е	f	g	h	i	j	k	Ι	m	n
9	r	s	t	u	v	w	х	у	z	а	b	С	d
10	у	Z	а	b	С	d	е	f	g	h	i	j	k
11	а	b	С	d	е	f	g	h	i	j	k	1	m
12	n	0	р	q	r	s	t	u	V	W	X	у	z

Ciphers of the day were manual and some had to be memorized by the agents.



Antennas and HF Propagation

Agents learned the basics of HF radio propagation as well as how to make and hide a variety of field expedient antennas (a topic no doubt familiar to those living with HOAs ...).

A New Radio

After reviewing the large and bulky HF radios of the day, Donovan's team realized that they would need to accomplish another first - design of a new agent radio from scratch. RCA received the contract and engineer Earl Anderson was told to complete the design on his own time since the company was already at max capacity with new wartime efforts.

Anderson responded with an elegant minimalist design with



SSTR-1 Radio

Suitcase configuration showing (L-R) SSR-1 Receiver, SST-1 Transmitter, and SSP-1 Power Supply

excellent flexibility. Christened SSTR-1, the new agent radio consisted of three modules - the SSP-1 power supply, SSR-1 receiver, the SST-1 transmitter. Each module was small enough to be easily concealed under a coat or inside other every day objects (Ref [2] shows one hidden in a loaf of bread). They could be readily assembled into the traditional suitcase spy radio (above) and a variety of other configurations.

Key to the SSTR-1's flexibility was its power supply. Its one small package could be configured to power the radio from 110 or 220 VAC or from a 6 volt storage battery (commonly used in automobiles of that era). It could also be used to recharge the 6 volt battery.



5 tube superhet covering 2.7 – 17 MHz 9.5" x 4" x 3" 5 lb



SST-1 Transmitter

6L6 crystal oscillator
3 – 14 MHz CW

9.5" x 4" x 3" 4 lb

The SSR-1 receiver was a classic five tube superhet covering 2.7 to 17 MHz in two bands and could receive either CW or AM. It had good sensitivity, but was known to drift a bit. Its companion transmitter, SST-1, was a 6L6 crystal oscillator with an excellent output matching network for field antennas. (I can still remember making my first Novice contact using a similar transmitter.) SSTR-1 was a resounding success in the field and remained in use in various revisions throughout the war and for several years afterward.

With the war over, President Truman disestablished OSS in 1946. That same year, Prince William Forest Park was returned to the public as a recreation area.

By 1947 the Cold War was in full swing and CIA was established as America's national intelligence organization. This year, 2022, marks both the 75th anniversary

of CIA's founding and the 80th birthday of its predecessor, OSS. And this month on November 11th we honor the sacrifices of our nation's veterans and take a moment to remember that freedom is not free.



References and Further Reading

- 1. Chambers, John Whiteclay II **OSS Training in the National Parks and Service Abroad in World War II** https://www.nps.gov/parkhistory/online_books/oss/index.htm
- 2. OSS: **STRATEGIC SERVICE TRANSMITTER-RECEIVER NUMBER I (SSTR-1)** https://www.youtube.com/watch?v=3kLCvt9nKFs
- 3. Sullivan, Robert **SSTR-1 Transmitter Demo (40m CW)** https://www.youtube.com/watch?v=ge85XPCeQdc
- 4. NPS. **Spies in the Park**Prince William Forest Park Virtual Museum Exhibit
 https://www.nps.gov/museum/exhibits/prwi/index.html
- 5. Crypto Museum: **SSTR-1** https://www.cryptomuseum.com/spy/sstr1/index.htm