

# Summits on the Air



W50/WI-007 (Elk Mountain)

Curtis – KC5CW

# What is SOTA

- Summits on the Air
- An awards program for everyone!



# My Goal For You

- Become a participant
- Learn some basics
  - A Brief History of SOTA
  - Associations & Regions
  - Definitions
  - Qualifying Summits & Points
- Chasing Summits
- Activating Summits
- Shack Sloths & Mountain Goats



Unknown summit near Hot Springs, AR

# Who Can Participate?



W6/NC-399 (Coyote Peak)

- Short Answer: ANYONE!
- The program is designed in a way that allows anyone to participate and activate summits. Not into climbing hills? Then sit back in your shack and work the guy on the summits.
- No HF capability or privileges? Lot's of activators work FM.

# A Brief History

- SOTA originally conceived by John Linford, G3WGV
- Program designed & organized with the help of Richard Newstead, G3CWI
- Launched on March 2nd, 2002
- England & Wales were the first associations, followed by Scotland.
- Today, there are 118 Associations, 970 Regions & almost 100,000 Summits!



Mt Magazine Arkansas, photo by KG5EIU

# Association & Regions



W5T/CR-001 (Christmas Mountains HP) KG5EIU

- Managing 100,000 summits would be an impossible task
  - SOTA is broken up into Associations
  - Each Association is broken down into Regions
- Associations & Regions each have their own managers
- W5T Association – KD6CUB (Sean Gardner)

# Associations & Regions

## [SOTA Mapping Project](#)



W5T/FR-001 (North Franklin Mountain) KC5CW

# Some Definitions

- **Activator:** An individual that activates a Summit
- **Chaser:** An individual who works Activators
- **Reference Number:** A reference in the form W5T/FR-001 which uniquely identifies a Summit



W3/CR-003 (Sugarloaf Mountain)



# More Definitions



WOC/FR-004 (Pike's Peak)

- **Summit:** A mountain peak that meets the Association's qualification criteria
- **Col (saddle):** The lowest point along a ridge between two Summits
- **Prominence:** The height of a Summit, relative to the surrounding countryside
- **Activation Zone:** The area above a line drawn connecting all points along a vertical distance of 80 feet

# Qualifying Summits & Points

- New Summits are qualified at the Regional level
- In order for a summit to qualify, it must have a prominence of 150 Meters or 500 Feet
- Qualifying summits are assigned points based on their elevation above sea level
- There are 6 bands of points, the levels of each are determined by the Association



W5O/QA-001 (King Mountain) KC5CW

# Points

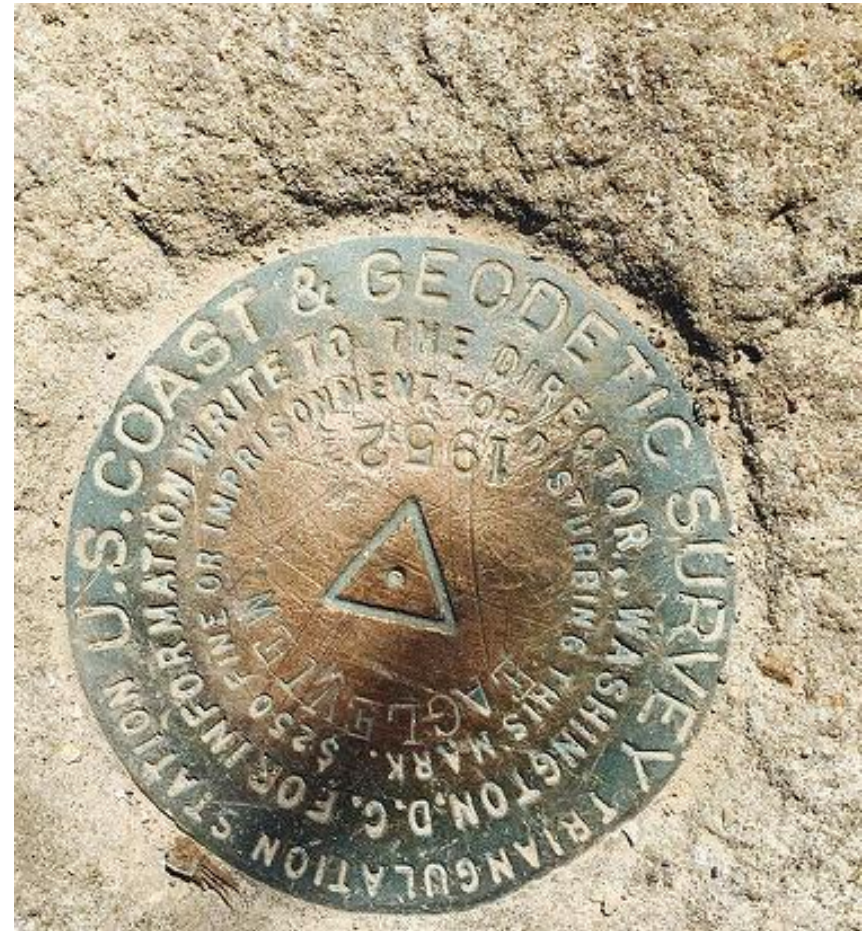
- Point values for each band:
  - Band 1 1 point
  - Band 2 2 points
  - Band 3 4 points
  - Band 4 6 point
  - Band 5 8 points
  - Band 6 10 points
- In addition, seasonal bonuses may be assigned based on increased difficulty to access a summit at a specific time of year



W5N/PW-020 (9420) KC5CW Nov 30, 2013

# Prominence

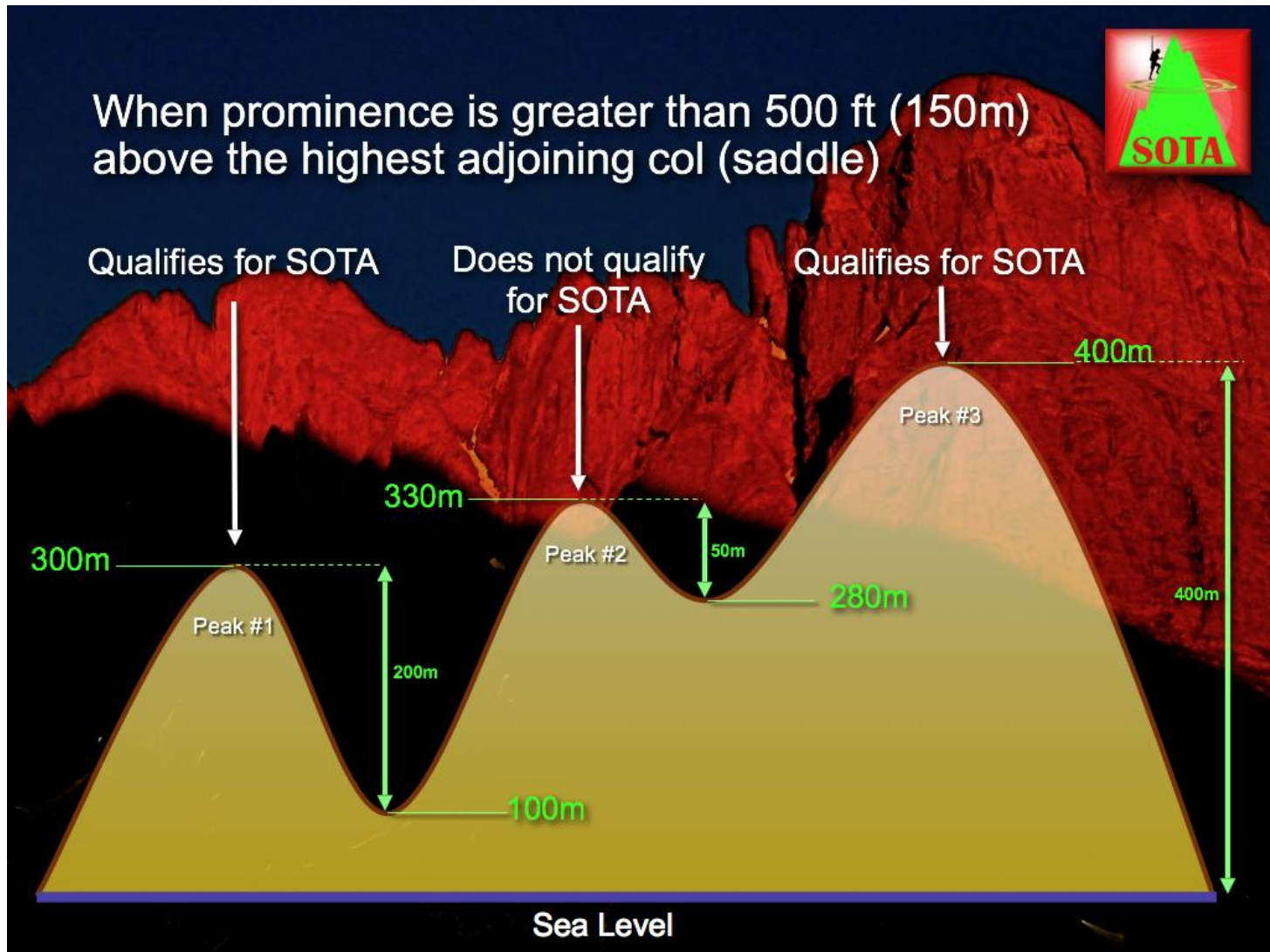
- What is “Prominence”?
- The prominence of a peak is the height of the peak’s summit above the lowest contour line encircling it and no higher summit
- If the peak's prominence is 500 feet, to get from the summit to any higher terrain one must descend at least 500 feet



W5A/CS-006 (Eagle Mountain)

# Prominence

When prominence is greater than 500 ft (150m) above the highest adjoining col (saddle)



# Chasing Summits

- The Chaser earns points toward awards by working activators
- In order to qualify for points toward an award a chaser must meet the following :
  - The Chaser must hold an appropriate & valid transmitting license
  - The Chaser must make a QSO with the Summit Expedition, in which at least call signs and two-way reports are exchanged
  - Only one QSO with a given Summit on any one day (defined as 00:00 to 23:59 UTC) counts for points



# Chaser Rules Continued



- Submit your log at: [sotadata.org.uk](http://sotadata.org.uk)
- QSL cards are not required, but fun!
- An Activator can be a chaser, S2S!
- You get the points for that summit

# Where are all the Activators?


Band	Mode	Frequency	
10M	SSB	28.8850	
	SSB	28.3850	
	CW	28.0600	28.0630
	CW	28.1100	28.1130
12M	SSB	24.9470	
	CW	24.9060	
15M	SSB	21.2850	
	SSB	21.3850	
	CW	21.0600	21.0630
	CW	21.1100	21.1130
17m	CW	18.0960	
20m	SSB	14.3425	14.347
	SSB	14.2850	
	CW	14.0600	14.0630
30m	CW	10.1150	10.1190
40m	SSB	7.2850	
	CW	7.0600	7.0630

Mount Capulin





# Where are all the Activators?

 **SOTAwatch2** Logged in as

[Home](#) | [Spots](#) | [Alerts](#) | [Reflector](#) | [Website](#) | [Summits](#) | [Recent Summit Info](#) | [Video](#) | [Photos](#) | [Shop](#) | [Mapping](#) | [Facebook](#)

This page refreshes every 1 minute. Last updated 20:07:33 UTC.

### Latest Spots

[>> more spots](#) | [new spot](#)

Mon 20:05	NS7P on <a href="#">W7O/CC-002</a>	10.111 cw
	(Posted by NS7P)	
Mon 19:48	NS7P on <a href="#">W7O/CC-002</a>	14.061 cw
	*[RBNHole] at W7AH 16 WPM 21 dB SNR (Posted by RBNHOLE)	
Mon 19:46	NS7P on <a href="#">W7O/CC-002</a>	14.061 cw
	Phil calling CQ here. (Posted by W0MNA)	
Mon 19:16	KB1RJJD on <a href="#">W8V/PH-058</a>	7.178 ssb
	cq now (Posted by KB1RJC)	
Mon 19:09	AD5A on <a href="#">W5N/PW-023</a>	18.0901 cw
	*[RBNHole] at AC0C 17 WPM 17 dB SNR (Posted by RBNHOLE)	
Mon 19:08	AD5A on <a href="#">W5N/PW-023</a>	18.09 CW
	(null) (Posted by AD5A)	

### Upcoming Activations

[>> more alerts](#) | [new alert](#)

Mon 23:00	JM3URG/3 on <a href="#">JA/OS-005</a>	21-ssb,50-ssb
	(Posted by JM3URG)	
Mon 23:00	JF1NDT/2 on <a href="#">JA/SO-038</a>	14-cw,18-cw,21-cw,24-cw,28-cw
	(Posted by JF1NDT)	
Mon 23:00	JM3GVH/3 on <a href="#">JA/NR-057</a>	50.2-ssb,21.2-ssb
	(Posted by JM3GVH)	
Tue 00:00	JM3GVH/3 on <a href="#">JA/NR-057</a>	50.2-ssb,21.2-ssb
	(Posted by JM3GVH)	
Tue 01:00	JJ1SWI/1 on <a href="#">JA/TK-012</a>	21-cw
	(Posted by JJ1SWI)	
Tue 01:00	JM3GVH/3 on <a href="#">JA/NR-057</a>	433.10-fm
	(Posted by JM3GVH)	

- SOTAwatch.org is the program's spotting service
- Activators may self spot or alert of upcoming activations
- Chasers also spot activators

[SOTAwatch spots website](#)

# Log Your Chaser QSOs

- As previously mentioned, formal QSLing is not required
- Enter your contacts into the SOTA Database and the system will calculate your points

[SOTA Database website](#)

## Submit Chaser/S2S/SWL Entry

### a. Select the Association, Region and Summit

Association:	W1 - USA
Region:	GM (Green Mountains)
Summit:	W1/GM-011 (Camels Hump)

### b. Enter QSO Details

Date (dd/mm/yy)	
Time UTC (hh:mm)	
Callsign YOU used	
Other Callsign	
Band	--Select Band--
Mode	--Select Mode--
Notes	
S2S	<input type="checkbox"/> Is QSO S2S?
SWL	<input type="checkbox"/> Is QSO SWL?

# Activating Summits



# Activating Summits

- While activating a summit seems straight forward, there is a lot to consider before heading up the hill
  - First & foremost: Safety. Consider your physical condition and environmental & legal factors when planning an activation
  - Lots of summit options so you don't need to be a rugged Mountain Man to activate



W4C/EM-007 Beech Mountain 10 Points Private Property Activation

# Activating Summits

- Consider the following:
  - How accessible is the summit?
  - How is the terrain between my starting point & the AZ (activation zone)?
  - Am I physically fit enough to make the summit from my starting off point with all my gear?
  - How long do I estimate it will take to get to the Summit? Back Down?



W1/GM-184 (Cobble Hill)

# Resources For Planning Ascent



- SOTA websites
- Google is your friend
- Topo maps
- Hiking clubs
- Summit notes in SOTAwatch
- Ask a goat

# Ascent Day

- Do one last self assessment
- Who knows you're going?
- Check the weather
- BRING ENOUGH WATER TO STAY HYDRATED!
- Give yourself enough time
- If possible, bring a friend
- A 2m radio is a good idea to work local repeaters
  - There is often poor cell reception on summits
  - APRS is handy too (spotting)



Scott's Bluff, NE

# The SOTA Station



Summit in Oklahoma

- Radio
- Antenna
- Power
- Accessories (antenna support, etc)
- Logging material
- Think about how much you need and how heavy you want it to be



# The Radio

- Favorites:
  - Yaesu 817
  - Elecraft KX3
- Also possible:
  - IC-7000
  - Yaesu 897
  - Whatever you have
- CW only:
  - Elecraft KX1 or K1
  - Steve Weber (KD1JV) designed radios ([qrpkits.com](http://qrpkits.com))



W2/GA-010 (Cascade Mountain)

# The Antenna

- A wire 2000+ feet up is AWESOME.
- Probably the most common antenna in use for SOTA activations is the end fed wire.
- [Yahoo Antenna Poll](#) in nasota Yahoo Group
- 2m ops commonly carry yagis – “rubber ducky” is not enough
- Loop antenna



Johnson Peak: Possom Kingdom Lake

# Power

- Most SOTA activators get their power from batteries.
- SLAB, LiPo, LiFePo4, Solar, Eneloop NiMh
- Lightest per Amp is LiPo
- Safest lightest HiCap is LiFePo4
- SLAB – last resort



W1/DI-005 (Pemetic Mtn.)

# Tips for Activators



- Call “CQ SOTA”
- Once you are spotted, you will generate a pileup
- Answer call with following exchange
  - Call, signal report, summit designator
  - Repeat until the pile up is gone
- Chasers are friendly and patient

# Tips for Activators



- You only need to make 4 contacts for the activation to be valid, but don't forget that the chasers have been waiting for you to get their points, work as many of them as you can.
- Don't forget to log the contact's
- Keep an ear out for other activators to log S2S QSOs

Mt Cummins, OK

# Shack Sloths & Mountain Goats

- SOTA is an awards program, so your efforts, both Chasing & Activating are recognized with wallpaper
- Certificates are available for gaining 100, 250, 500, 1000 points (Activators and Chasers)
- At 1,000 points Activators achieve "**Mountain Goat**" status and Chasers/SWLs are "**Shack Sloths**"



Meers Burger! Photo by KG5EIU

# Resources



KG5EIU and KC5CW Packs on Elk Mountain, OK

- [www.sota.org.uk](http://www.sota.org.uk)
- [www.sotawatch.org](http://www.sotawatch.org)
- [www.sotadata.org.uk](http://www.sotadata.org.uk)
- [www.sotamaps.org](http://www.sotamaps.org)
- [www.sotabeams.co.uk](http://www.sotabeams.co.uk)
- NASOTA yahoo group (North American SOTA)
- SOTA Goat – iOS app
- SOTA Logger – Android

<https://www.youtube.com/watch?v=0ORBxLV72n4&feature=youtu.be>

# SOTA Questions?



Mt Cummins activated by KG5EIU



## National Parks on the Air

Throughout 2016, Amateur Radio will be helping the National Park Service celebrate their 100th anniversary. Hams from across the country will activate NPS units, promote the National Park Service and showcase Amateur Radio to the public.

# National Parks

## ON THE AIR

2016

The ARRL logo is a diamond-shaped emblem with a yellow border. Inside the diamond, the letters 'A', 'R', 'R', and 'L' are arranged vertically. The 'A' is at the top, 'R' is in the middle, and 'L' is at the bottom. A stylized antenna symbol is positioned between the 'A' and the 'R's, and a ground symbol is at the bottom.

[ARRL.org/npota](http://ARRL.org/npota)

# What Is It?

- A fun non-contest modeled after SOTA
  - Yes you may use the WARC bands
- A great way to get out and operate /m or /p
- A great way to chase activators
- Mostly HF operating
- A way to promote ham radio to the public

# Awards

- You can get 3 different certificates
  - Activator Award with the number of NP units activated on the certificate
  - Chaser Award with the number of NP units chased on the certificate
  - National Parks Honor Roll if you confirm QSOs with 75% of the 59 NPs
  - \* Five Star Activator recognition on the above

Let's get on with it, Chasing



# Where Are The Activator Spots?

- Facebook
  - [facebook.com/groups/NPOTA](https://facebook.com/groups/NPOTA)
- Twitter
  - [#arrrl\\_npota](https://twitter.com/arrrl_npota)
- [dxsummit.fi](https://dxsummit.fi)
- [npota.arrrl.org/nps-events.php](https://npota.arrrl.org/nps-events.php) (planned)

# Go to their frequency

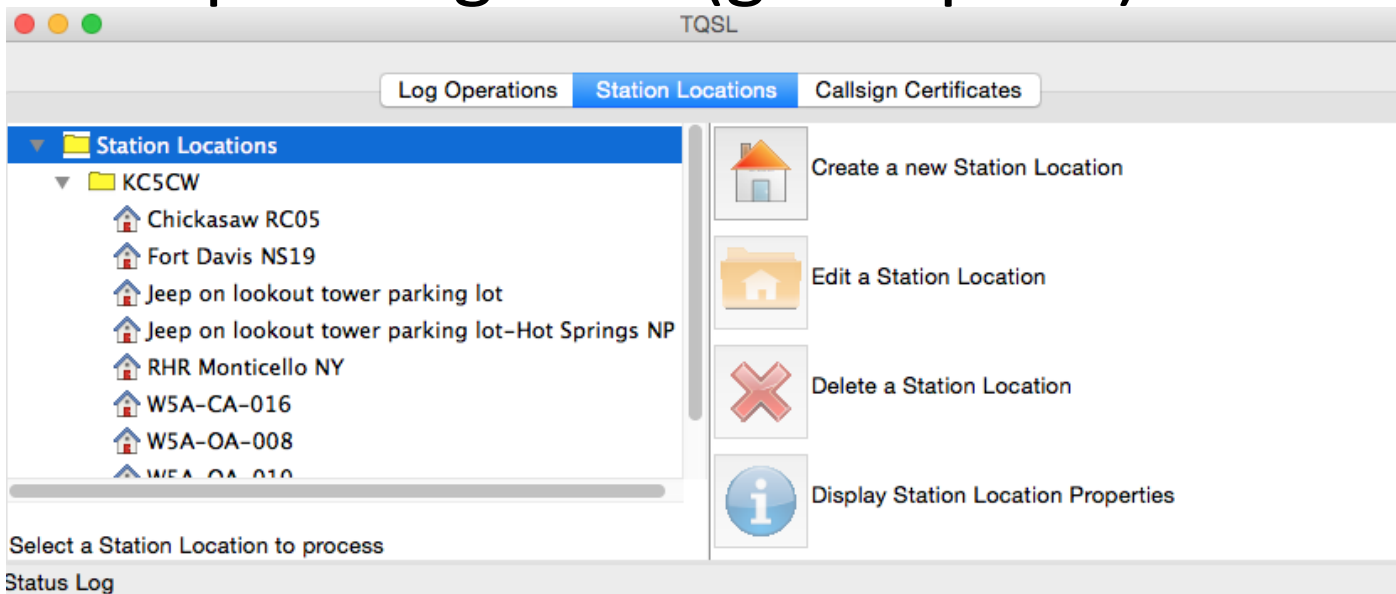
- Remember, if you tune up, don't tune up on their frequency.
- Wait for them to say QRZed
- Send your call sign once, move around some
- Here's what they are hearing
- <https://flic.kr/p/DkTozP>

# Ready, Set, Log!

- Log directly into LoTW via a computer and Tqsl
- Log to paper and transfer it to LoTW
- Exchange is the park designator and a signal report

# Logbook of The World

- If you don't have a login, get one (postcard)
  - [arri.org/lotw](http://arri.org/lotw)
- Make sure you have a location for where you are operating from (grid square)





# Create an ADIF Log

The image shows a software interface with a sidebar on the left and a main dialog box on the right. The sidebar contains four icons with corresponding text: a globe with an up arrow, a floppy disk with a green arrow, a document with a pencil, and a globe with 'THE AGE LOGBOOK' text. The main dialog box is titled 'QSO Data' and contains several input fields and dropdown menus.

Sign a log and save it for...

Sign a log and save it for...

Create an ADIF file for s...

Log in to the Logbook o...

Status Log

**QSO Data**

Call Sign:

UTC Date (YYYY-MM-DD):

UTC Time (HHMM):

Mode:

Band:

RX Band:

Frequency (MHz):

RX Frequency (MHz):

Propagation Mode:

Satellite:

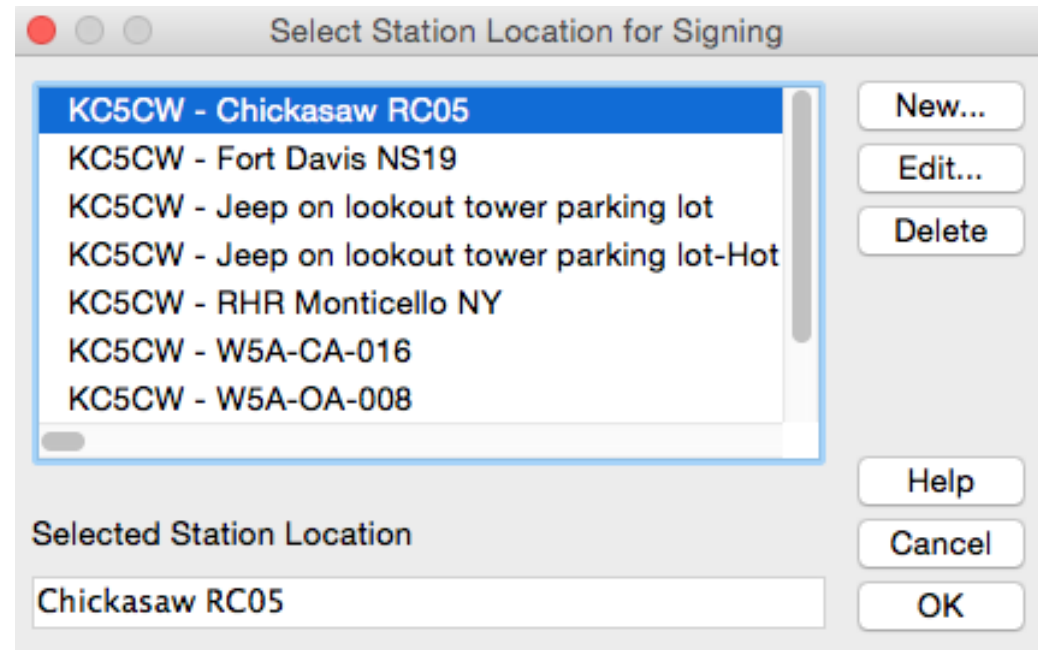
1 QSO Record

# Sign and Upload it to LoTW

- Click sign a log...
- Select the file
- Select your location
- Enter your pw
- Done!

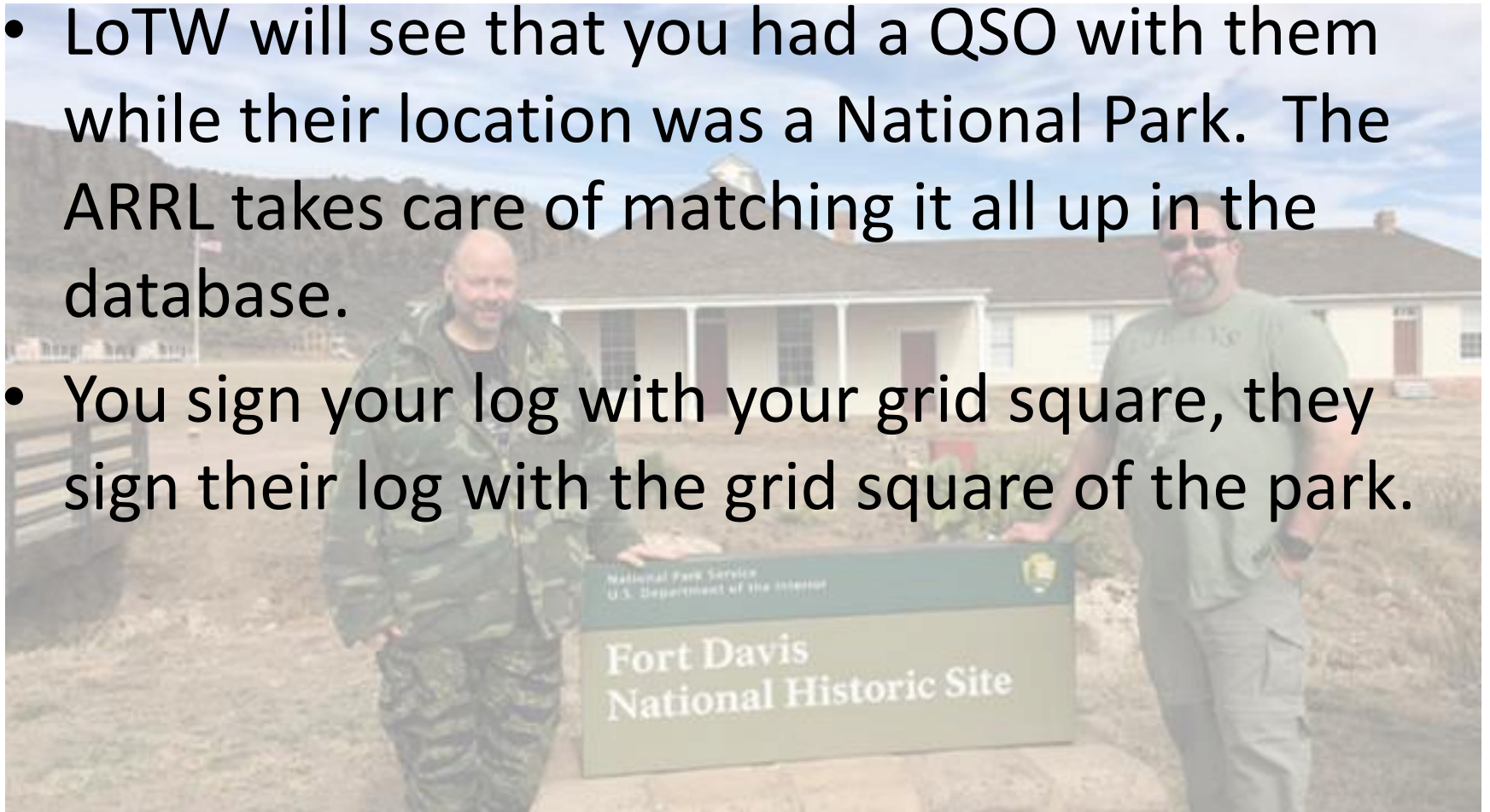


Sign a log and upload it automatically to LoTW



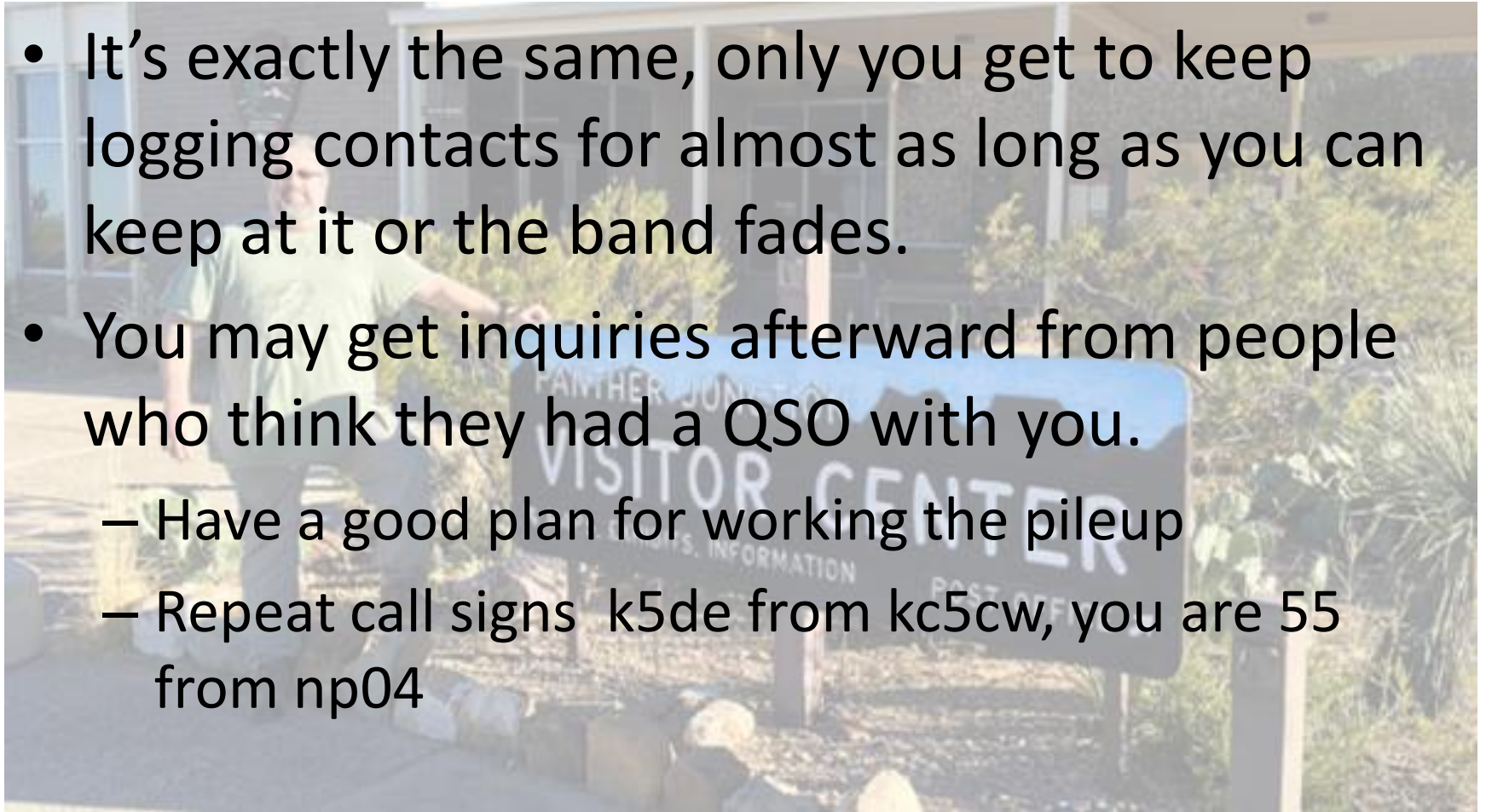
# What About Their Location?

- LoTW will see that you had a QSO with them while their location was a National Park. The ARRL takes care of matching it all up in the database.
- You sign your log with your grid square, they sign their log with the grid square of the park.



# Activating a Park

- It's exactly the same, only you get to keep logging contacts for almost as long as you can keep at it or the band fades.
- You may get inquiries afterward from people who think they had a QSO with you.
  - Have a good plan for working the pileup
  - Repeat call signs k5de from kc5cw, you are 55 from np04



# What Radio Should I Use?

- I've used my KX3, QRP and an end fed antenna. I've also used my 200w Kenwood and a mobile LT II antenna.
- Guy KC5GOI and I talked on 40m while I was in the Chickasaw National Rec Area from my Kenwood, to his 100w Kenwood going into his wire antenna by Lake Ray Roberts.

# Rocky Mountain NP



# Improvise!



# Zion NP





# Grand Teton NP



# Capulin Volcano NM



# Pictures

- <https://flic.kr/s/aHsksZupbP> from KG5EIU
- <https://flic.kr/s/aHskpDUL5a> from KC5CW

# Link showing all the parks

<http://www.spinmap.com/npota-sota/map.html>



# Questions?

- Thank you!
- [kc5cw@arri.net](mailto:kc5cw@arri.net)