



Smoke Signals

Newsletter of Fullerton Radio Club

May 2019

Hillcrest Park ARDF on 5/4/2019 Photos and Article by Joe Moell KØOV

It's been a two-decade tradition for fans of food and radio foxhunting to gather in north Orange County for "Antennas In The Park." The first gathering took place in 1998 and it has continued annually (except for one year) ever since. Originally at Tri-City Park in Placentia, it moved to Hillcrest Park in Fullerton in 2015 and is now headquartered at the Izaak Walton Cabin there.

This year's foxhunting turnout good and everyone was enthusiastic. Two persons built two-meter antenna/attenuator sets from kits by Marvin Johnston KE6HTS. Most participants started out by finding the three practice transmitters nearby. Next, seven persons set out on the international-style two-meter course. Somehow the controller logic of transmitter MOS got scrambled and it went off the air, so there were only four foxes to find. Some of these hunters took time out in the middle of their searching to take part in the barbecue. Here are the results:

TWO-METER COURSE RESULTS -- 4 FOXES

<u>Name and call</u>	<u>Time</u>	<u>Foxes</u>
Bill Wright WB6CMD	0:32:40	4
Steve Herbert K6CRW	0:57:50	4
Rick Stutsman N6IET	1:19:18	3
Tom Smith KB6A	1:16:33	1
Dean Dods KD6I with J. R. Lindauer	Lunch break	4
Jordan Heichman WC6J	Lunch break	1

Eighty meters is "the other foxhunting band." There was one 80m transmitter to find. Judging by the results, it was probably too close to give a sufficient challenge:

EIGHTY-METER TRANSMITTER RESULTS

<u>Name and call</u>	<u>Time</u>
Bill Wright WB6CMD	5:47
Robert Canillas AD6XJ with Jenna Canillas WWØMAN	11:48

Thanks to Gene and Cheryl Thorpe, KB6CMO and KE6TZU, who arranged for use of the cabin. Thanks to Albert Solomon AG6OF for bringing his grills and cooking the meat. Thanks to Bob Houghton AD6QF for bringing all the vittles, except for the annual Foxhunting Weekend cake, which was bright by April Moell WA6OPS. And thanks to everyone who came out and made it a great day in the park.

Joe Moell KØOV

[See Photos, page 3]

May 2019 FRC MEETING

Wednesday, May 15, 2019

Chapman Activity Center

2515 San Carlos Drive, Fullerton

(Second street east of State College Boulevard
off Commonwealth)

Meeting time – 7:00 PM

Visitors are always welcome

Dinner before the Meeting:

Black Bear Diner

5:00 PM

Fullerton Radio Club
P.O. Box 545, Fullerton, CA 92836-0545

Board of Directors

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Email: lmcdavid@lmceng.com

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TBD
(This could be YOU)

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Robert Gimbel, KG6WTQ
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Paul Broden, K6MHD
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Volunteers

T-Hunt

Joe Moell, K0OV
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Show –and–Tell

Bring something of interest to the meeting to show and share your story.
Something old, new, or just of interest to hams.

Web site: www.FullertonRadioClub.org

May Board Meeting Minutes

The May 2019 FRC Board Meeting was called to order at 7:35 pm by President Larry McDavid W6FUB. Others present: Treasurer Gene Thorpe KB6CMO; Secretary Linda Endsley KJ6IHB. Directors: Paul Broden K6MHD; Walter Clark; Robert Gimbel KG6WTQ. Member: Cheryl Thorpe KE6TZU

Minutes were approved.

Treasurer's report: Checking \$3,843.46 savings \$2,607.94

Old Business:

Discussed food for Antennas in the Park. There will be a \$5 fee per person for food to expenses. Fire permit was obtained.

Discussed items for Field Day

A draft bylaw revision will be submitted for member review with a membership vote planned for the May, 2019 general meeting.

New Business:

May speaker will be Joe Moell.

April 27 – Donate Life Run – Went well. Had 34 operators and several were first-time helpers for the event.

May 4 – Antennas in the Park

June 22/23 – Field Day

Next board meeting: 5 JUNE 2019

Adjourned at 8:11 pm
by Linda Endsley KJ6IHB

Hillcrest Park ARDF on 5/4/2019 Fullerton Radio Club Antennas In The Park



Photos by Joe Moell K0OV

May FRC Meeting Presentation

Joe Moell K0OV has participated in ARRL Field Day almost every year since he was a Novice in 1958. Follow Joe and his friends over the decades in this multi-media presentation as they operate from an airport, an AM radio station, a WPA camp, hospitals, and a dam site. See and hear it at the next **Fullerton Radio Club meeting on Wednesday, May 15, 2019** and then make your plans to participate in the club's Field Day operation in June.



Joe Moell K0OV at Field Day. Year not indicated.

FIELD DAY PLANNING

Hello Everyone,

Fullerton Radio Club, Western Amateur Radio Association, and former Hospital Disaster Group members will be having a Field Day operation **June 21-23** at Hillcrest Park, located at 1200 North Harbor Blvd in Fullerton (where Brea and Harbor Blvd meet at E. Valley View Dr).

We will be set up at the Isaak Walton League Cabin in the park. We will operate from 11AM Saturday until 11AM Sunday.

We will use the club call sign so we will be W6ULI and we will be a 2A station in the Orange Section.

We're in the Field Day Locator on the ARRL Web Site under W6ULI and my name should anyone need to find us.

We'll have 2 HF stations, 1 VHF/ UHF station with 6M, 2M, and 440 MHz, a "Get on the Air" station for newcomers to HF, and a Satellite station.

What do you need to bring?

Friends and family!

Something to share with everyone that you like to eat (The cabin has a refrigerator and a small kitchen.)

A jacket as it might get cool in the evening.

A few comfortable lawn chairs (someone always seems to be sitting in mine when I want to sit in it....)

A sleeping bag if you want to spend the night; an air mattress would be good also; the cabin does not have cots.

If you are going to spend the evening, please alert us so we can plan for it.

If you have a preferred operating time, please also let us know. We're not planning a firm operating schedule, but if there's something you'd prefer, let us know.

Whatever else you think you might like to have to keep comfortable

The cabin has tables and chairs for the operating stations.

We will probably do something for dinner Saturday night; we'll decide in the next few weeks about either an afternoon barbeque or perhaps pizza for dinner. If you would like something special for yourself, please bring it.

What can you help with?

We ALWAYS need another pair of hands for setup and ESPECIALLY take down of radios, antennas, and equipment.

Setup and stringing of antennas will commence on **Friday, June 21 at 3:00PM** at the park. We have to hurry to get all the antennas up Friday afternoon before it gets dark. We have enough supervisors; but we'll need a few more workers.

Setup will resume at approx. 7:00 AM Saturday for radios, tables, etc. to prepare for an 11:00 AM start.

Teardown will start at 11:01 AM Sunday until we finish.

If you have any questions you can call or email me.

Hope to see you there!

Tom, WB2LRH

tsgaccione@yahoo.co

[We'll have a location map and directions in next month's Smoke Signals]

Community Service Event

A Special Olympics event will be held at Cal State, Long Beach on June 8 & 9, 2019. There is a need of 10 – 20 amateur radio operators. If you can help please contact Mark Lidikay for details at KE6TNM@scran.org.

CLUB FIELD TRIP

You'd think I don't have enough to do! But really, interesting things turn up that get my attention. Today, I enjoyed (with several other ham club members) a 2-1/2 hour lecture and tour of the Orange County Water District Groundwater Replenishment System facility in Fountain Valley, California.

This facility receives treated effluent from the nearby sanitary sewage treatment facility and reclaims the water. Treated sewage output used to go to the ocean; now, most of it goes to the wastewater reclamation facility. The reclaimed water is very pure and safe to drink, though, at this time, state regulations prevent its immediate, direct use in city water distribution systems. Instead, it is pumped uphill to North Orange County to a network of percolating basins, where it slowly filters through the clay soil and mixes with natural groundwater, which is then pumped from water wells by cities for their city water supply.

So, how clean is the reclaimed water? Wow! The process first filters through submicron (0.2 micron) filters, then RO Reverse Osmosis membranes and finally through intense ultraviolet light UV sterilizers. The output is purer than city tap water! Finally, minerals are added back and the pH adjusted. A move is afoot to change state regulations so it can be used more directly.

I have a RO water system under my kitchen sink. I use RO water for drinking and cooking, and to supply the chilled water and ice cube maker in my kitchen refrigerator. My RO system produces about 3 gallons per day...

The OCWD Groundwater Replenishment System facility produces 100 *million* gallons of RO water per day! It is, in fact, the largest RO water system in the entire world so far. It is currently being expanded to 130 million gallons

per day capacity. It is a clean, modern facility with huge stainless steel pipes and pumps. It is pristine clean throughout with no debris and no leaking water anywhere on the tour. Every system is operated and monitored remotely from a central control room. The entire facility operates with two, 5-person shifts, and management and support personnel, like our tour guide. The OCWD also manages use of groundwater throughout the county to ensure we maintain the underground reservoirs. About 30% of the facility's output water is pressure-pumped into inland wells along the OC coast to prevent Pacific Ocean salt water from migrating into inland groundwater reservoirs.

100 million gallons per day of RO water! Some arid *countries* are thinking of installing RO systems that are not that big. It is a very impressive facility!

The facility includes a two-story building that houses only the water testing laboratory, responsible for testing groundwater water purity throughout Orange County. We are arranging a separate tour of that laboratory for a future date. In addition, each city is responsible for testing its city water purity and must publish test results twice a year to residents.

I knew there was wastewater reclamation because I see signs that report reclaimed water is being used for roadside planting irrigation. But, I did not know that 70% of the water produced is piped uphill to north Orange County to use in the many percolating basins to replenish groundwater. It is still difficult to imagine 100 million gallons per day of RO water...

The pictures show a few of the RO water membrane filters and the UV light sterilization cells, and the pipe that exits the facility to distribute its water.

If you live in Washington State or New Jersey

where it rains a lot, reclaimed water might not seem so important. But, here, where we get very little rain but have large population centers, water is a precious resource that must be managed. There is only so much water, folks!

Larry W6FUB

See Photos, Below.





Trash Talk- FRC Visit to the Anaheim Materials Recovery Facility

In April, a group of FRC members had the opportunity to visit the Republic Services Transfer Station and Materials Recovery Facility in Anaheim. Bill, Walt, Larry (with Carlos Guzman, Operations Manager, above) and Tom were given a tour of the facility by Carlos Guzman, the facility Operations Manager. Republic, the second largest trash handling company in the United States, has contracts for numerous cities in Orange County for residential, commercial, and green waste disposal. Processing several thousand tons of material daily, the Anaheim facility has several operations: Transfer of trash from residential and commercial pickup to large trailers to be sent to the Brea landfill, sorting of recyclable and green materials from customer pickup for transfer to recyclers, and the household hazardous waste disposal site next door to the facility. Carlos gave us a two and a half hour tour of how the materials are processed, sorted, and prepared for transfer to the next facility.

Once picked up from your residence, trash (from your trash bin) is delivered to the facility to be compacted, loaded into a larger trailer, and shipped to the Brea landfill. Republic also takes trash from other cities, commercial haulers, as well as residential dropoffs at the facility for transfer to the landfill.



Activity Report for May 2019 of The Technical Adjunct Group of the Fullerton Radio Club

Bill Webb brought us up to date on his weather station at home and the ESP-32 computer that runs it. An ESP-32 is Bill's favorite micro computer. It is more than an Arduino microcontroller but it has a similar fan base; the hobbyist who wants to embed a computer. In the photo Bill is pointing to the output of a program he's working on. That's Walters new video screen showing Bills ESP-32 output there in Orange. The program is called the Now and Then Thermometer. It shows the temperature now at a particular location and predicted change over the next hour or so based on weather stations in the area. He pointed out that since Arduino and the ESP series are open source there are several clone makers of the boards. His current project is leaning how to direct the compiler so the same program can work with different products. A typical size for Bills programs is 1300 lines and that doesn't include the subroutines from libraries that he calls up.



Tom Fiske is a tenor at a church near where TAG meets so he is with us for the first half hour or so. (Rehearsal and TAG meeting nights are the same.) This meeting he presented a problem or a feature of his ICOM 7699. There's a knob on it he calls attenuation. He claims it attenuates the RF going to the mixer, although he's not sure. He discovered that it seems to make the noise go away but the voice is just as loud. He was picking the brains of the group to explain why it does that.

Tom also started a discussion on sunspots and DXing. According to a recent QST article, it is only going to get worse. Tom attended a lecture where it was shown there is an excellent correlation between climate warming and sunspot cycle. About three of us at the same time reminded the group that correlation doesn't imply causation.

Larry McDavid always has the most interesting stuff to share. One gadget that went all the way around the room before he revealed the mystery was what the picture shows he's holding in his hand; a spilled mercury picker-upper. Just as a reminder, Larry is a collector of antique tools and scientific instruments. He really doesn't work with mercury at all let alone spill it enough to keep this around.

He also passed around a lichtenberg figure made with --in this case-- a 4.5 million volt electron gun. https://en.wikipedia.org/wiki/Lichtenberg_figure We are accustomed to surface charging on an insulator but charge can also be held within a solid. An electron beam charges many of the molecules within this plastic block in the same way ions get distributed within a cloud. It is discharged at a single point and like lightning, it reveals a branching of discharge paths. Unlike air, which repairs the damage instantly, here it is recorded in the block as microscopic fractures.

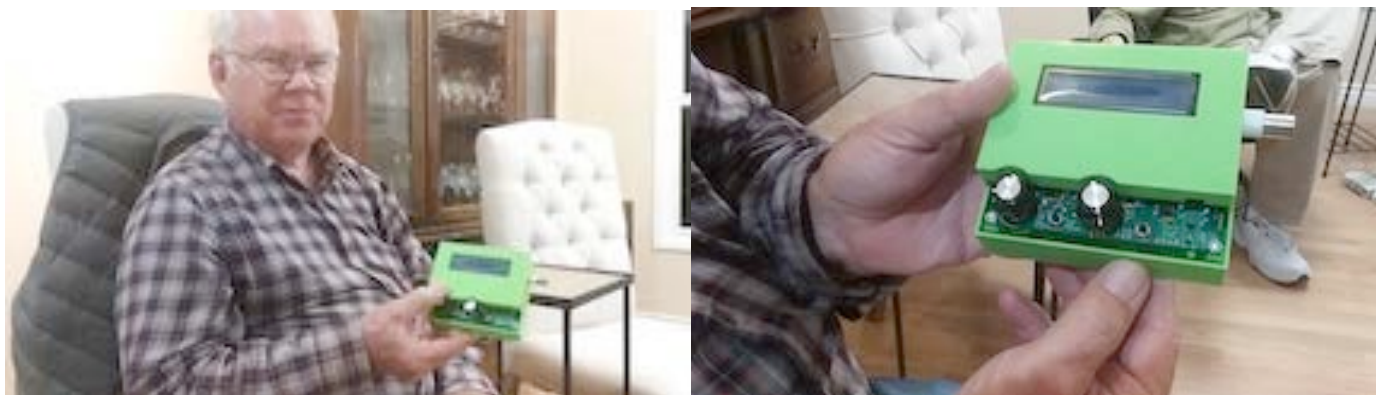
The most impressive scientific instrument he brought was a WW2 astro compass, that did more than tell the direction. By sighting three stars, using skill and a chart the navigator in a bomber could tell where the bomber was over the ocean on his way home or to the target.

Larry was quite impressed with the Fullerton Radio Club tour of the water reclamation facility and described the process for us at TAG. (See his article elsewhere in the Smoke Signals.)

Bob Houghton recently purchased a UV light source and in describing what can be done with it, used the California Drivers License as an example. It is one of the many means to make it difficult to counterfeit, there is a tiny picture of the licensee that is revealed in UV. That led to a very long discussion on what all is on the license and from there the discussion led to "Real ID". Real ID is something that Federal Big Brother will impose on all citizens in the next few years. Larry McDavid told us about his experience with getting a Real ID at the Fullerton DMV. Four different people insisted on looking at four documents which proved he pays utility bills and was born. (Not many people have their birth certificate let alone a utility bill with their name on it.) It is truly going to be a nightmare. The State of California has arranged a special dispensation for those who do not wish to step out into the Brave New World. But then you may not travel outside the state or fly in an airplane; you know like in the Soviet Union. No problem there.

Bob also told us about another gadget he bought. It is for his car. It is called a Scan Gage II (<https://www.scangauge.com/products/scangauge-ii/>) about \$150. It plugs into the OBD2 (the connector all cars have under the steering wheel, repair guys use to diagnose the car.) This displays interesting information like coolant temperature, RPM, miles per gallon even spark advance in degrees.

Dick Palmer brought in one of his more recent QRP radios in a lovely green box that is a perfect fit for the electronics. The box was made on Bill Webb's 3D-printer. That led to a discussion on the designs that are available on-line for 3D printing enclosures. Most of them can be adjusted in width, height, depth, placement of holes, hatches and ledges.



Dick also talked about Antennas in the Park and poked fun at the fact that there was only two "real" antennas; his and Paul Broden's. (That was to tease all those with RDFs.) He talked about the tuning of the antenna to get it optimized for each of the bands; 80, 40 and 15. When you do antennas in the park where the antennas are big you use a gun or sling shot to put the lead-line over a tree or high branch. The gun they brought was missing some essential component which led to some very humorous misses.

Dick Bremer brought up something he saw on Youtube for getting into locks. You melt them with liquid gallium. Apparently gallium will alloy with the metals of a lock to turn them into a form of metal that can be broken easily with a screw driver. That story led to a discussion on safes and locks that reveal tampering.

Walter Clark (TAG host) talked about the troubles he had connecting his new TV to the surround sound Hi Fi system. He had a great deal of help from Bill Webb in setting it up. In particular was the problem of connecting an optical fiber output to an old analog audio amplifier. The picture shows a 40 year old Cerwin Vega speaker and the

\$12 150 watt class D amplifier. (Class D is digital) When he gets it re-coned, it will be the subwoofer that will go into the wood box door next to the fireplace.



June Board Meeting

Open to all Club members

Marie Callender's Restaurant

126 Yorba Linda Blvd., Placentia

First Wednesday of each month.

Next Board Meeting

Wednesday, June 5, 2019

QSO and dinner; 6:30 PM

Meeting: 7:30 PM

MEMBERSHIP RENEWAL / APPLICATION

Fullerton Radio Club
PO Box 545, Fullerton, CA 92836

(Please Print)

Name #1 _____ Call: _____ Class: _____

Name #2 _____ Call: _____ Class: _____

Address: _____ City: _____ State/Zip: _____

Phone #1: _____ Email #1: _____

Phone #2: _____ Email #2: _____

ARRL Member ☐ Yes ☐ No

Special Amateur Radio Interests: _____

Dues are \$20 per member, or \$25 per family. Students (full time) \$10

Bring your application and dues payment to the next meeting or mail to the above address.