



SPARKS



Vol. 15, No. 4

Newsletter of the Puget Amateur Radio Society

April 1999

April program - Fox Hunting

In preparation for our fox hunt on May 22, Charles Scharlau, NZØI, vice-president of the North Kitsap ARC, will let us know what we're in for. Charles' interest in transmitter hunting grew from his involvement in search-and-rescue exercises with RACES in 1994. He maintains an e-mailing list of those individuals who are interested in transmitter hunting. He'll talk about some techniques, and also will acquaint us with some of the larger international aspects of this part of amateur radio.

I'll fill in the details about our fox hunt in next month's *Sparks*. Be sure to keep your calendar open for May 22!

CQ Worldwide WPX Phone Contest

Thanks to some last-minute cajoling by Hef, KD7E, PARS made its first foray into the CQ WW WPX, sponsored by CQ magazine, on Mar. 27-28. The object is to work as many stations with as many different prefixes as you can, e.g. K7, JH1, VK7, VK6, etc. Many DX stations obtained odd-ball-prefixed callsigns just for this event, and we were constantly reaching for the *DXCC Countries List* to figure out what part of the planet we were talking to.

Our "hunt-and-pounce" approach and modest equipment netted us only 209 contacts, compared to more than 8000 for some of the "big guns"; but we did have the thrill of working 50 DXCC countries, including such rarities as Ascension Island, Banaba Island, and the Galapagos Islands. Our total claimed score was 78,824.

Members Bob, KJ7BP, Hef, KD7E, Dick, W9HXM, and Your *Sparks* Editor spent a total of about 20 hours on the airwaves, out of the 48-hour contest period. Al, N7VOF, and Tim, KD7DEY, provided moral support and helped consume the excess toroids, er, doughnuts strewn about the trailer.

For the record, here are the 50 DXCC countries that we snagged:

Alaska	European Russia
Argentina	Finland
Aruba	France
Ascension Island	Galapagos Islands
Asiatic Russia	Germany
Australia	Greece
Austria	Hawaii
Banaba Island	Italy
Belarus	Japan
Belgium	Lithuania
Brazil	Marshall Islands
Bulgaria	Mexico
Canada	New Zealand
Canary Islands	Norway
Chile	Poland
Columbia	Romania
Costa Rica	Slovenia
Croatia	Spain
Cuba	Sweden
Cyprus	Tonga
Czech Republic	Turks & Caicos Islands
Denmark	Ukraine
Dominican Republic	Uruguay
E. Caroline Islands	Venezuela
England	Wales

You can bet we'll be working this one again next year! - de N7UK

Next general meeting - Thursday, Apr. 15 at 7:00 PM at the Bellevue Senior Center, 4063 148th Ave. NE in Bellevue. Charles Scharlau, NZØI, will present a program on fox hunting (see article above). And be sure to join us at 5:30 PM for dinner at Coco's, 14804 NE 24th St. in Redmond. Visitors are always welcome at the meetings and at Coco's.

Next board meeting - At the home of Al Staples, N7VOF, 409 - 109th Ave. SE in Bellevue, Thursday, May 6 at 7:00 PM. All PARS members are welcome.

The Prez Sez ...

This month I managed to get my act together and get this in on the right date. From the sounds of it, Kirk N7UK and John KD7E had a bang-up good time with their recent contest effort. You can see from Kirk's report that they made a goodly number of neat contacts. I think maybe this is an effort that the club might like to repeat next year, and hopefully with some advance notice there might be some other members who would also like to operate for this one. If the club is going to try to do this, or other contests on an annual basis, we might want to consider a QSL card for K7PAR. Something to think about, anyway.

The Fox Hunt is approaching, and I welcome our speaker this month, Charles Scharlau NZØI, who I think will be able to give us some of the larger picture of transmitter hunting on the world scene. He also may have a few tidbits for us as far as how to go about finding the fox. While so far we've not had as much contact with the Maple Valley club or the Issaquah club as I would have liked, I hope that some of those members will be able to attend this meeting as well. We would certainly welcome participation by those clubs.

Don't forget the dinner before the meeting at Coco's restaurant at Overlake at 5:30 PM. Hope to see a lot of you there! - 73 de Jim KC7FEH

Apr. Board meeting minutes available

Minutes of the April Board meeting are available from the Secretary.

Hamfest Calendar

April 18: Summerland, BC, call 250-493-1800 or e-mail bedge@img.net

April 24: Vancouver, WA, call 360-896-8909 or e-mail lwayne@e-z.net

May 8: Stanwood, WA, call 360-629-2921 or e-mail huppert@whidbey.net

May 15: Caldwell, ID, call 208-459-2459 or e-mail ingramde@cyberhighway.net

May 22-23: WA State ARRL Convention, Yakima, call 509-965-3379 or e-mail kb7hdx@televar.com

June 4-6: NW Division ARRL Convention, Seaside, OR, call 503-297-1175 or check the Web site at www.seapac.org

Birthdays!

Lorie Graff, N7LCO

April 25

EARS hoping you'll call

Eastside Amateur Radio Service - interested parties contact John, W7HIL, at 425-391-8026 or Chuck, WA7EBH, at 425-392-5303. Always room for more help in this community activity.

Programs, get your programs

We're still looking for programs for the May and June meetings. Call Lorie if you'd like to be a speaker, or if you have a program idea.

PARS 1998 - 99 Club Officers:

President - Jim von Seggern, KC7FEH

360-638-1715

Secretary - Kirk Bellar, N7UK

206-542-6742

Vice President - Lorie Graff, N7LCO

425-392-5846

Treasurer - Charles Beckmeier, KC7GMF

425-822-2339

The Puget Amateur Radio Society (PARS) is an ARRL-affiliated club serving radio amateurs in the greater Seattle area. Meetings are normally held on the third Thursday of the month (except July, August, and December) at 7:00 PM at the Bellevue Senior Center, 4063 148th Ave. NE. Visitors are always welcome.

Annual dues are \$15.00 for individual membership, \$22.50 for family (2 or more persons at the same address). PARS will prorate the dues of new members joining after Jan. 31. Call Kirk, N7UK, for a membership application.

Join us on the PARS net every Wed. night at 7:00 PM, on the WS7K repeater, 443.2 MHz (103.5 Hz PL). The repeater is located on Rose Hill in Kirkland.

Visit our Web page at <http://www.qsl.net/k7par>. We've just started building this page, so check back often.

Send articles, comments, want ads, idle rumors, etc. for inclusion in this newsletter to Kirk Bellar, N7UK, 19353 Greenwood Ave. N, Shoreline WA 98133, fax to 425-867-2160, or e-mail to n7uk@aol.com.

Send all other club-related correspondence to PARS, PO Box 32, Kirkland WA 98083-0032.

Minutes of the PARS general meeting, Mar. 18, 1999

The club met at the Bellevue Senior Center. Thirteen members were present, a quorum. Two visitors also attended. The President brought the meeting to order at 7:11 PM.

Following introductions and the Pledge of Allegiance, the members observed a moment of silence in memory of Larry McIntyre, WB6VZU.

Due to the late arrival of the evening's speaker, the President proceeded with the business meeting. The members approved, without revision, the minutes of the February meeting as published in the March issue of *Sparks*.

Treasurer's report: The Treasurer reported a positive balance for the 30 days ending March 18, and reported on the deposit and withdrawal amounts for the same period. [Financial statements are available from the Treasurer - Ed.]

Trailer Committee: The Secretary reiterated that the Senior Center facilities staff had approved the placement of the club's Cushcraft R5 vertical on the Center's roof. He noted that he would need a suitable design for a weighted base for the antenna, with calculations to show that the antenna will stand up to any anticipated winds.

Hamfest Committee: Chairman John Heflin reported that everything went smoothly this year. Several members commented favorably on the new club banner, which was suspended over the club's tables during the event. The Secretary reported that twelve people had signed the club register at the hamfest, one of whom was in attendance at the meeting. An unknown number of people also took PARS fliers.

The President suspended the business meeting, and the Vice President introduced the evening's speaker, Issaquah ARC president Rod Johnson, KA7YOU, who presented a program on QRP operating and displayed various radios and accessories for QRP. The members had an opportunity to examine the equipment during the break.

Following the break, the President resumed the business meeting. Al Staples, N7VOF, reported that Field Day chairman Bob Adams, KJ7BP, had applied to the Bellevue Parks Dept. to use Downtown Park for Field Day again.

Fox Hunt: Chairman Doug Bell hadn't contacted the Issaquah or Maple Valley ARCs regarding their participation in the fox hunt. The President asked Rod Johnson to invite the Issaquah ARC members to the April 15 PARS meeting, which will feature a program on fox hunting. Rod said that he expected six to twelve members of the Issaquah and Maple Valley ARCs to participate in the fox hunt.

Nomination Committee: The Vice President announced the members who had agreed to be nominated for officers' positions for the 1999-2000 club year. For President: Kirk Bellar, N7UK; for Vice President: Charles Beckmeier, KC7GMF; for Secretary: Tim Monk, KD7DEY; and for Treasurer: John Heflin, KD7E. The President solicited additional nominations from the floor, but no one did so. He reminded the members that the elections will occur at the April meeting, and that everyone would have an opportunity to nominate themselves or someone else at that meeting.

New Business: The President proposed that the club make a donation to the Mary Lou Brown, NM7N, Memorial Scholarship Fund in memory of Larry McIntyre. After some discussion from the floor, the Vice President moved to donate \$100 to the Fund. The members voted and approved this motion.

The President announced that the Mason County ARC was sponsoring a beginner's direction-finding class, to take place in Shelton on Mar. 21.

With no further business, the President adjourned the meeting at 8:43 PM.

*Respectfully Submitted -
Kirk Bellar, N7UK
PARS Secretary*

A new beam for PARS?

During the CQ WW WPX contest, Al Staples and I discussed the possibility of replacing the club's trib-and beam, a Hy-Gain TH3JR (Thunderbird Junior). While I don't know its history, its oxidation and rust attest to a long life spent in the outdoors. Al and Chuck Graff have exerted considerable time and effort keeping it going. One of the elements sagged alarmingly during last November's Sweepstakes effort.

I plan to make two motions at this month's meeting: One, to approve the purchase of a new tribander (a Yagi antenna covering the 10-, 15-, and 20-meter bands); and two, if the first motion passes, to approve a particular model of tribander. One of the advantages (to me, anyway) of being Your *Sparks* Editor is that I can inflict my discussions on you prior to the meeting. (I'll gladly extend the same courtesy to anyone else wishing to further his or her cause in advance of making a motion.) Here are the pluses and minuses as I see them:

Reasons to buy a new beam:

- ★ The TH3JR is badly oxidized and rusted.
- ★ The plastic seals protecting the traps are hardened and cracked, and have been wrapped with electrical tape in order to avoid water seepage.
- ★ The condition of the traps themselves is unknown.
- ★ The bracket holding the director elements to the boom is missing; Al replaced it with a home-brewed bracket.
- ★ One of the elements sagged badly for unknown reasons the last time it was used.
- ★ The TH3JR's traps are rated for 600W PEP, which means that we couldn't use it with a legal-limit amplifier.
- ★ At present, it's unknown how much time, money, and effort it will take to restore it to satisfactory operation. We don't know whether anyone will volunteer to take on the task.
- ★ We may not be able to complete a rebuild in time for Field Day.
- ★ Newer antenna designs are available with better forward gain, front-to-back ratio, SWR, etc.
- ★ Two club members, who shall remain anonymous, have offered to subsidize most of the cost of a new beam (up to \$300). Additionally, we can sell the existing beam and use the proceeds to help finance a new one.

Reasons NOT to buy a new beam:

- ★ Oxidation can be removed with a bit (okay, a LOT) of sanding, steel wool, Scotch Brite, etc.

- ★ There's no indication that it's working improperly. Faulty parts can be repaired or replaced.
- ★ Hy-Gain still makes this model, therefore replacement parts, like trap seals, are readily available. A replacement boom-to-element bracket costs only \$7.00 (minus the nuts and bolts).
- ★ The sagging element may have simply been caused by faulty assembly.
- ★ We're unlikely to have or use a legal-limit amplifier, so the power rating isn't an issue.
- ★ We have two months until Field Day to make repairs.
- ★ The TH3JR is a proven antenna, and Hy-Gain still sees fit to sell it. The advantages of a newer design aren't worth the expense to the club, even if some of the members subsidize most of the cost.

Well, it's a close call. To me, the most compelling arguments for replacing the beam are that we can't rely on it to work properly for Field Day; and that buying a new beam will have minimal impact on the club coffers, since individual members will cover most of the expense.

If we agree to buy a new beam, then we have to decide on a model. I've been surfing the Web and ordering catalogs from various manufacturers, and have identified nineteen potential replacements from five manufacturers. **Table 1** compares their features.

In making these choices, I've omitted full-size Yagis, log-periodics, and log-yag arrays because of their size, complexity, and cost. The Force 12's come close to being full-sized, but I included them because of their compact booms. I've also included the recently-introduced 5-band beams from Mosley, which include the 17- and 12-meter WARC bands.

... Now that your eyes have glazed over from looking at Table 1, I'll give you my two cents' worth on which beam to buy.

Since we'll be attaching and detaching the elements frequently from the boom during its useful life, ruggedness and ease of assembly/disassembly are the most important considerations. Based on comments I've gleaned in person and on the Web, I've ruled out Cushcraft because they simply aren't built as ruggedly as some of the other beams available.

The Force 12s are interesting designs, but they have six elements to attach and detach, and have less gain than most of the others. They're essentially interlaced 2-element monobanders on a common boom.

Table 1: Comparison of 3- and 5-band Yagis

Manufacturer	Model No.	# of Elements	Forward Gain, dBd					2:1 VSWR Bandwidth, kHz					F/B Ratio	Boom Length	Element Length	Weight, Lbs.	Price
			20m	17m	15m	12m	10m	20m	17m	15m	12m	10m					
Cushcraft	A3S	3	5.9 average (no 17m or 12m)					350		450		1100	25 dB	14'	27.75'	27	\$ 350
	A4S	4	6.8 average (no 17m or 12m)					350					25 dB	18'	32'	37	\$ 430
Force 12	C-3S	6	4.5		4.7		4.4	350		425		1100	14 dB	12'	35.8'	25	\$ 470
	C-3SS	6	4.1		4.7		4.4	350		425		1100	18 dB	12'	24.4'	27	\$ 470
Hy-Gain	Explorer 14	4	5.3		5.8		6.6	350		450		1700	25 dB	14'	31.5'	45	\$ 424
	TH5Mk2	5	6.1 average (no 17m or 12m)					350		450		1400	20 dB	19'	31.5'	57	\$ 549
	TH3Mk4	3	5.8 average (no 17m or 12m)					250		250		750	25 dB	14'	27.4'	35	\$ 341
	TH3Jr	3	5.8 average (no 17m or 12m)										25 dB	12'	27.25'	21	\$ 266
KLM	KT-34A	4	7.0 average (no 17m or 12m)					350		450		1700	20 dB	16'	24'	45	\$ 590
Mosley	Mini-33	3	3.2		3.9		4.5	350		450		1700	17 dB	6'	16.75'	10	\$ 310
	CL-33-M	3	7.0		8.1		8.5	350		450		1000	23 dB	18'	27'	42	\$ 463
	CL-33-WARC	4	7.0	0.0	8.1	0.0	8.5	350	100	450	100	1700	23 dB	18'	28'	52	\$ 593
	TA-33-M	3	6.5		7.3		8.3	350		450		1700	20 dB	14'	28'	37	\$ 378
	TA-33-M-WARC	4	6.5	0.0	7.3	0.0	8.3	350	100	450	100	1700	20 dB	14'	28'	42	\$ 486
	TA-33-Jr-N	3	5.8		6.8		8.0	350		450		900	20 dB	12'	26.7'	21	\$ 300
	TA-33-Jr-N-WARC	4	5.8	0.0	6.9	0.0	8.1	350	100	450	100	1700	20 dB	12'	27.1'	27	\$ 390
	TA-53-M	4	6.5	6.7	6.9	7.1	7.9	350	100	450	100	1300	10 dB	14'	26.25'	55	\$ 596
	MP-33-N	3	5.8		6.8		8.0	350		450		1000	20 dB	12'	26.7'	22	\$ 354
	MP-33-N-WARC	3	5.8	0.0	6.9	0.0	8.1	350	100	450	100	1700	20 dB	12'	27.1'	29	\$ 463

- Notes:**
1. All specs. were provided by the manufacturers. Gain figures and front-to-back ratios are notoriously unreliable, since the manufacturers usually don't specify how these values were measured. Some companies base these numbers on theoretical models in free space or over perfect ground, not actual results.
 2. Front-to-back (F/B) ratio is average for the 20m, 15m, and 10m bands. The F/B ratio for the WARC bands for the Mosley CL-33-WARC, TA-33-M-WARC, and TA-33-Jr-N-WARC models is 0.0 dB.
 3. Prices are actual selling prices, either direct from the manufacturer or from a major retail chain such as HRO or AES.
 4. For those of you who want to make your own comparisons, here are the appropriate Web sites:
 Cushcraft: www.cushcraft.com; Force 12: www.qth.com/force12; Hy-Gain: www.hy-gain.com
 KLM: For now, the KLM site, www.klm-antennas.com, is unavailable. You can try the Amateur Electronic Supply on-line catalog, www.aesham.com/ant_1.pdf. Requires the free Adobe Acrobat Reader software to view.
 Mosley: www.mosley-electronics.com

I've also ruled out KLM, and not because their president stood us up at the Feb. meeting either. Their KT-34A has very low SWR and good (claimed) forward gain in a compact size. It uses linear loading capacitors at the ends of the elements, made of small-diameter aluminum tubing, rather than traps. I'm afraid that the loading capacitors won't stand up to our frequent put-ups and take-downs. It's also one of the most expensive beams, at \$590.

That leaves Hy-Gain and Mosley. Both have good reputations for ruggedness. The Hy-Gain TH3 series and Mosley TA-33 series have suspiciously similar electrical and mechanical specs.

Mosley has added an extra element to some of its mature products to cover the WARC bands, but they offer no gain over a dipole. Their TA-53-M does offer gain on these bands, but the F/B ratio is only 10 dB. Field Day and the major contests exclude these bands, anyway. I don't think the added complexity and cost justify consideration of these antennas.

The Mosley Mini-33 is a "sub-compact" tribander on a 6-foot boom, and its forward gain suffers badly for it. The CL-33-M has impressive gain figures, but its SWR isn't as low as the TA-33-M, and it costs \$85 more. My ideal antenna would have an SWR below 1.5:1 across all of 20 and 15 meters, and the lower 1 MHz of 10 meters, so that we can use it without a tuner.

I'd also like to have a beam rated for full 1500W PEP, which rules out the "Junior" models TH3Jr (the same antenna we have now) and TA-33-Jr-N. The Mosley MP-33-N is a full-power version of the TA-33-Jr-N, but it's not as ruggedly constructed as the TA-33-M.

That narrows the list down to three models: The Hy-Gain Explorer 14 and TH3Mk4, and the Mosley TA-33-M. I like the **Explorer 14** because of its broadband design, but it may be more complicated to assemble than we want to bother with. My next choice would be the **TH3Mk4**, since it's cheaper than the Mosley, and because Hy-Gain has given me exemplary support during my research, but its bandwidth is limited compared to the Explorer 14.

I encourage everybody to show up at the April 15 meeting to discuss the problem, and relate your own experiences with tribanders. - de N7UK

Hamfest report

Personal observations from a rookie vendor at the Mike and Key Hamfest: I had a BLAST! No kidding. It was great fun and quite a learning experience for me. You can not believe what people will buy. You ever hear the term "One man's junk is another man's treasure"? I can attest to the fact that this is a true statement.

When I first started warehousing some of the items to be sold at the Hamfest, I started thinking to myself, "This isn't going to sell," or "Who in their right mind would want to buy this?" (No offense intended to the people who donated their stuff.)

My first objective was to try to clean everything up as much as possible. Some items, besides being broken, were pretty darn dirty. If you're going to buy something that's broken, it sure as heck better be clean! So I spent as little time as possible getting everything nice and pretty, which also included putting some of the stuff back together.

The day before the big day, Kirk, N7UK, and I took everything down to Puyallup to get our tables set up for the big event. Even as we were setting up our tables, vendors were coming over, checking out our goods, and asking "How much do you want for this?" I couldn't believe how much stuff we sold the day before the Hamfest, and that was just to other vendors. Gee, might we do okay?

Anyway, we got almost everything set up Friday afternoon. I returned Saturday with one more truckload of stuff. I stopped by KD7DEY, Tim's, place to give him a lift to the Hamfest and he offered to help out at our table.

When we arrived at the Hamfest we still needed to unload a truck full of items, so we went to the loading dock, where we were advised to put everything on a skid and the Mike & Key club people would wheel it over to our table. I said, "Okay, I'll show you where our table is." They said, "No, you've got to move your truck right now!" So I told them what our table numbers were. No problem ... well, it would have been no problem had I given them the right table numbers. They put our skid in the lost and found. Hah! It was sitting right next to the main speaker's table. Boy, did I feel dumb.

Anyway, the rest went very, very smoothly thanks to Kirk, Charles, KC7GMF, Jim, KC7FEH, Tim, and

Jim, W7FYH. The hardest thing we had to do was think of how much to sell certain items for, which wasn't all that tough.

The only thing that I was worried about was having to take the repeater and antenna back home if we didn't sell them. The repeater weighed about 80 pounds and the antenna was 17 feet long. Yes, those two items were the biggest problem trying to load and transport. I didn't want to take them back home with me at all cost. Luckily, we sold them both. After that, the rest was easy.

Final observations: I would gladly do it all over again [We've got it in writing, Gang! - Ed.] It's a good time and it's a way for our club to promote itself to others, plus we make a little money for future club endeavors.

My thanks to everyone who donated items for this event. Your support is greatly appreciated! Even though we probably sold your stuff for a fraction of its original price, believe me, those items are better off now than they were in your garage.

I encourage everyone to get involved and participate in club functions and events. It's all about having fun. Heck, if this felt like work, I'd never do it. - 73 de Hef, KD7E

Salmon Run Results

Well, better late than never. Since the Salmon Run's sponsor, the Western WA DX Club, had an info. booth set up at Puyallup, I took the opportunity to whine to club president Dick Swanson, K7BTW, that PARS hadn't received the contest results. Two weeks later, WWDXC member Bob Preston, W7TSQ, e-mailed me the numbers.

The Washington Salmon Run, which is essentially Washington's QSO party, occurred on Sept. 19-20 last year. It was the first time the club participated in this contest. We placed third in the club competition ... out of three entries, with a total of 14,074 points. The first-place "club", actually a non-club group in Olalla (K7QQ), earned 438,256 points, so we're not in danger of dominating the club standings any time soon.

The top five individual efforts in the state were from Jack Fleming, K7ED, in King county (318,660 points), Joe Gregory, W7QN, in King county (239,780), Bob Preston, W7TSQ, in Snohomish county (152,904), Robert Gregory, KD7H, in Okanogan county

(147,200), and Dan Miller, N7AN, in Skagit county (112,840).

Hams from coast to coast submitted logs, as did DX stations in three countries (Canada, Argentina, and Tonga, no less), for a total of 60 entries. There were plenty of other hams who weren't actively participating in the contest, but were willing to give us a contact to augment our score. We even engaged in a little bit of "quid pro quo", exchanging contacts with participants in the Tennessee QSO Party!

I talked with Bob Preston on the landline about the contest, and mentioned that I was thinking of activating a "rare" county this year for the Salmon Run. There are a lot of counties that have seen little or no activity during this contest: Lincoln, Adams, Stevens, Asotin, etc. etc. I told Bob that I was considering Wahkiakum county, between Kelso and Long Beach. Bob said that the RC of Tacoma (W7DK) had activated it several years ago, but not recently. Anyway, I do intend to work the Salmon Run this year from an obscure locale, and hope I can persuade a few fool-hardy souls to make the trip with me. Keep it in mind for late September. - de N7UK

Officer elections this month

As noted in the Minutes, we'll be electing officers at this month's meeting for the 1999-2000 club year. You'll also be able to nominate yourself or someone else for any of the positions, so you needn't merely rubber-stamp your approval on the existing nominees. I hope to see everyone there for this important club business. - de N7UK

♦ ♦ ♦ ♦ PARS BAZAAR ♦ ♦ ♦ ♦

Buy, sell, or trade your ham-, electronic-, or computer-related treasures here. Ads are gratis for PARS members. Call or e-mail Kirk, N7UK, to place your ad. The Editor reserves the right to capriciously refuse any ads for items he deems unsuitable, e.g. macrame or crocheted poodles.

KEYS WANTED - Collector wants to buy straight keys, bugs, keyers, other telegraph-related instruments, books, and ephemera. Kirk, N7UK, 206-542-6742 or n7uk@aol.com.