

ARRL November Sweepstakes - CW 2017 Results By Kelly Taylor, VE4XT

The Sweep Survived! — thanks to heroics from the island operators

When the 2017 ARRL CW Sweepstakes started on Nov. 4, few, if any, operators were expecting a Clean Sweep (working all 83 ARRL sections). Puerto Rico (KP4) and the US Virgin Islands (KP2) were still reeling from two Category 5 hurricanes, Irma and Maria.

If the island's hams weren't working to restore infrastructure, they were manning emergency communications centers, and when they weren't doing those jobs, they were struggling with those parts of daily life we usually take for granted.

"We had to work six to seven days a week," said Eric, NP3A, who installs and repairs wireless internet service equipment and would normally be pounding out RF during SS. "Free time was spent hand-washing clothes and making sure you had enough water for the next week. So, yes, time was very limited."

Puerto Rico's 3.4 million residents all lost power immediately, with restoration not expected to finish until the summer of 2018. Eric said some residents have been told to never expect power again.

Little wonder operating Sweepstakes was a mere afterthought less than two months after Maria.

Fred, K9VV, who lives full time on St. Croix and is usually the voice — and key — of NP2X, said Irma largely spared the islands, but Maria passed within 25 miles. "Big difference," he wrote.

"The recovery was a lot longer than I expected, but then again, I had never experienced a hurricane on an island before," he wrote. "One doesn't know what to expect when going through not one, but two Category 5 hurricanes in a span of 13 days.

"Experiencing a hurricane is a very humbling experience, but nowhere near as challenging as the recovery phase."

Both operators' contest stations were destroyed. Both were exhausted from weeks of recovery work and the struggle to survive. As Fred said, "contesting was lower than Maslow's hierarchy of needs."



That's not a new antenna design, it's the aftermath of Hurricane Maria at NP2X. You can't see it here but even the tower has a broken base. Fred, K9VV, estimates wind speed at more than 200 mph. (Photo courtesy — Fred Kleber, K9VV)

Alfredo, WP3C/NP4DX, said he lost all his antennas and one tower. He's still in recovery mode.

For Eric, the arrival of his favorite contest provided an opportunity for a respite, even if for only a few moments.

At least NP3A in Puerto Rico and Fred's NP2X, as well as NP3X, manned by Ron, N4XD, were on the air. Nobody from Puerto Rico submitted logs, and Ron and Fred managed only a combined 97 QSOs from KP2, making both sections extremely rare. Only 10 stations managed a sweep of all 83 sections.

For Eric, the isolation of his contest site and lack of electricity gave him plenty of experience running solar power, something he put to use at his apartment in San Juan. He entered QRP, having a total of 50 watts of

electrical power available. His antenna was a 40 meter loop mounted on the building's rooftop.

Fred also ran QRP, using an Elecraft K3 and Yaesu FT-3000. Power wasn't his only limiting factor, either. "Operating time was limited to when it was raining and we could not be outside working on antennas. The decision to run QRP was to preserve precious generator fuel." His antenna was a "somewhat resonant" KLM KT-34 he and Ron, N4XD, managed to install temporarily.

It wasn't just the Caribbean affected by severe weather, either. School Club station K9IU, operated by Joe, K7JOE, and Jerry, NE7I, had to shut down for not one, but two tornadoes blowing through Bloomington, Ind. "Was this Sweepstakes or Field Day?" Joe wrote in his Soapbox entry.

"We had to take several hours out of the contest and were busy running our local and regional SKYWARN nets," said Joe, K7JOE, who also runs his county's Office of Emergency Services. "Public safety was the priority so the contest had to be paused while the weather fronts passed through."

Operators who missed out on the Caribbean sections are no doubt hoping Northern Territories will be on strong again this year. That section is commonly missed year in and year out. "NT was very, very prominent this year, that's great," wrote Mike, WO9B.

VY1AAA, operated remotely by Gerry, W1VE, from his home in New Hampshire, managed 840 QSOs. J, VY1JA, and John, VE8EV, added another 135.



The view at VY1AAA is great when the skies are clear – CQ Sweepstakes! (Photo courtesy – J Allen, VY1JA)



It's not easy keeping a multi-element HF quad on the air — imagine the challenges in the Yukon! Ice fog coated every inch of the antenna systems at VY1AAA. (Photo courtesy — J Allen, VY1JA)

Record-Setting Efforts

As a result of Puerto Rico and the US Virgin Islands being almost silent, combined with sliding down the back of Cycle 24, scores were down considerably. No overall records were touched, but a few key regional records fell.

Perhaps the most significant is the Pacific Division record in Single Operator Unlimited, Low Power (SOULP), held since 2012 by K7XC. Bill, K4XS/KH7XS, operating KH7B, claimed the record with 149,526, beating the 141,532 set by K7XC. Bill's 923 QSOs and 81 sections were good for a fourth-place finish in the category. Don, N4ZZ won with 1,092 QSOs and 82 sections.

"I always have a goal for the contests," Bill said. "It keeps me motivated. I was aiming for two things, the Hawaii record and, if lucky, the Pacific record.

"It takes a unique strategy from Hawaii," he said. "The distance to any QSO is at least 2,500 miles, and the Maine and VE1/VO1s are more than 5,000 miles away. We work on 15 as much as we can, then move to 20 when it's less crowded, and finally to 40," he said. "Fifteen is the key to

doing well out here, as it is really tough to slug it out on 20 and 40 running 100 watts."



(Photo courtesy — Bill Kollenbaum, K4XS/KH7XS)

The antenna farm of KH7XS shown above is situated on the east side of the "Big Island" and Bill's station gets quite a bit of assistance from terrain. "Most guys who know me know that my abilities don't lie with CW operation, so I really can't take a huge amount of credit for the win," he said. "I sit at 1,100 feet elevation and the the Pacific in the direction of the U.S. is only 6,500 away."

Combine that with a location at 20 degrees North, and Bill finds openings in marginal conditions the mainland just doesn't get, "meaning that often, the only stations the mainland hears are KH6 stations. Result: almost no QRM and huge runs."

The downside to operating from paradise is time-shifting. Five hours out of sync with the East Coast, Bill finds many continental stations are heading to 40 hours before 40 meters is worth even a peep on Hawaii, something that's worse on the second day. "You'll notice I only used 19 or so hours of operating time. No one was left on 20 and no one was listening to the west on the West Coast on 40. I gave up around 3 p.m. local and came back an hour later to make a couple more Qs."

Bill isn't expecting to be in the books for long. "I would imagine some Pacific guy on the mainland will bust this record next year as it's not really all that big of a QSO total and not a Clean Sweep. We'll see."

Bill notes it's worse in the CW contest than the Phone weekend. "On SSB, it's a bit different when 20 starts to die. I can manufacture Qs by doing the 'anybody, anywhere' and get lots of number ones. In fact, it's possible to have a 60 or 70 hour on SSB doing that. It is very hard to manufacture Qs on CW."

Other records that fell (or at least wobbled):

In Multioperator, Low Power (MSLP), NR7DX and company, with 108,420, beat the previous Northwestern Division record of 67,308 set by KL4SD in 2016.

School Club (S) category runner-up W4FS set a new record in the Roanoke Division, with its 136,448 beating the 27,900 set by K4KDJ in 2014.

Ward, NØAX, and his operating partner, Dave, NN1N, came within 300 points of a new Midwest Division record in Multioperator, High Power (MSHP), with 196,472 points, just missing the mark of 196,710 set by KØWA in 2015. [Wait'll next year! -Ed.]



Dave Patton, NN1N, moved back to Illinois after leaving ARRL HQ. He operated with Ward, NØAX, at Ward's station in MO, placing second in the Multioperator category. (Photo courtesy — Ward Silver, NØAX)

What Makes Sweepstakes Special

Vic, K9UIY, provided some insight into what makes Sweepstakes the contest it is. "This is, and always has been, one of my most favorite radiosporting events each and every year since I was licensed in 1959," he wrote in his Soapbox entry. "It has all the elements of strategy, endurance and a bit of luck, too. Thanks for the good times and all the Qs!"

Just behind Bill in SOULP is perhaps the poster boy for why Sweepstakes is so attractive. Kirk, NØKK, returned to his usual haunt at Ron, NØAT's station in Plymouth, MN. Why is that remarkable? Because when many contests are ruled by the biggest stations, Sweepstakes can put operators of even modest stations into the running.

"Yes, I have a one-tower station," Ron writes. "It's a 70-foot Hy-Gain crank-up." While his verticals do well for DXing on the low bands, for SS, Kirk makes do with a dipole at 50 feet, as well as some cloud-warming loops or dipoles at 20 feet Ron and Kirk install specifically for Sweepstakes. It pans out for Kirk, whose 847 QSOs and 81 sections in 2017 were good for fifth place.



Kirk, NØKK, operating at the station of Ron, NØAT. (Photo courtesy — Kirk Pengelly, Jr., NØKK)

Sweepstakes Squeakers

One of the tightest overall races was for No.1 in SOLP between Willie, WJ9B, and Kirk, K4RO. They were separated by a mere seven QSOs, though Willie managed 82 sections to Kirk's 81.

In Single Operator, High Power (SOHP), Jeff, K1ZM, (@VY2ZM), lost fourth place to Dave, K5GN, by just two QSOs, 1,236 for Dave to 1,234 for Jeff. Both stations scored the elusive sweep. Among Top 10 in SOHP, Steve, N2IC, who won, was the only other station to sweep.

And the Winners Are...

Congrats to the winners: Steve, N2IC; Willie, WJ9B; Tor, N4OGW; Randy, KØEU; Don, N4ZZ; Bob, WØBH (@KØHC), and the multiop crews at W6YI and W2FU.

Category Winners

Single-Op, High Power (SOHP, B)	
N2IC	225,760
Single-Op, Low Power (SOLP, A)	
WJ9B	171,052
Single-Op, QRP (SOQRP, Q)	
N4OGW	130,380
Single-Op Unlimited, High Power (SO	UHP, U)
KØEU	203,524
Single-Op Unlimited, Low Power (SOU	JLP, U)
N4ZZ	179,088
Multiop, High Power (MSHP, M)	
W6YI	215,136
Multiop, Low Power (MSLP, M)	
W2FU	167,360
School Club	
кфнс	139,356

Single Operator, High Power

N2IC	225,760
W7RN (N6TV, op)	214,020
N9RV	210,600
K5GN	205,176
VY2ZM	204,844
KRØP (N5RZ, op)	200,900
NR5M (K5GA, op)	200,232
K7JR (KL9A, op)	198,604
K5ZD	196,472
WXØB (AD5Q, op)	195,816

Single Operator, Low Power

WJ9B	171,052
K4RO	167,832
N4KM	157,950
N9CK	152,480
W1NN	148,554
NAØN	148,362
KI6RRN	145,440
KØAD	145,152
K5KU	144,180
K3UA	143,424

Single Operator, QRP		Multioperator, Single Tran	smitter, Low Power
N4OGW	130,380	W2FU	167,360
VE6EX	104,960	K5CM	160,064
W1QK	103,194	W6YX	154,980
K1VUT	100,160	WØDLE	142,722
N7IR	88,320	W8TK	137,280
WA7LNW	86,670	NR7DX	108,420
W7YAQ	83,680	VE7KW	91,040
W6JTI	81,844	VA7KH	82,080
W1XX	76,650	W1FM	63,680
K4QPL	69,608	KA9VVQ	48,384
Single Operator Unlimited, High	Power	School Club	
KØEU	203,524	кøнс	139,356
КЗММ	198,276	W4FS	136,448
N800	195,160	W4UAL	51,332
К9СТ	191,552	K9IU	39,712
N4GG	190,512	N5XU	28,616
K6LL	189,074	WØEEE	13,356
NØXR	187,124	K3GU	8,428
N1LN	175,122	K5LSU	5,762
N5FO	172,692	W9GRS	2,340
N4BP	172,308	W1AF	390
Single Operator Unlimited, Low	Power	Cat Dandy for Next Tir	
N4ZZ	179,088	Get Ready for Next Time	
KB7Q	164,754	Spend the summer getting those low-band antennas ready the next CW Sweepstakes is Nov. 3 to 5. Hope to see	
W4AAA (KK9A, op)	157,626	everyone back. Except Irma and Maria, that is!	
KH7B (K4XS, op)	149,526	every end each. Endept min	, with 1/10/100, with 15 t
NØAT (NØKK, op)	137,214		
N9CO	132,840		
W6OAT	128,628		
N1QD	128,084		
K9WX	123,360		
WØZA	123,360		
Multioperator, Single Transmitt	er, High Power		
W6YI	215,136		
NØAX	196,472		
N6RO	187,920		
W4RM	182,932		
KY7M	179,280		
Ando	476.600		

ABØS

K7RI

NN5K N6NU

K6MMM

176,628

149,440 124,312

119,132

99,040

Pick Of the Soapbox

Here are some entries from Soapbox comments included with the submitted logs:

"After being licensed for 62 years, I entered my first SS CW contest" — Carl, AA4MI

"The absence of KP2 and KP4 was evident" — Tom, K3TW

"My 41st consecutive year with more than 1,000 QSOs in SS CW. My best start ever, then ran out of stations" — Randy, K5ZD

"One radio, all low, wire antennas. This effort is dedicated to my lifelong friend and mentor Carl, N4AA, now SK" — Mike, KH6ND, operator at KH7X

"I sure wish more participants understood the name of each data field in the SS exchange so when a fill is requested, they answer with the correct data" — Dave, K8CC

"In this contest, it would be great if it was required to use in your call sign the call area you are in, since call signs are all over the board these days," Jerome, KD6WKY, who actually is in California

Division Winners

AA3B	185,652
W9RE	170,640
N7IV	159,246
KØEJ	158,880
W5MX	180,608
N2NT (N2NC, op)	193,590
KRØP (N5RZ, op)	200,900
K5ZD	196,472
N9RV	210,600
W7RN (N6TV, op)	214,020
N4AF	176,464
N2IC	225,760
NX4N	191,066
K6LA	195,548
K5GN	205,176
VY2ZM	204,844
K3UA	143,424
N9CK	152,480
NAØN	148,362
K4RO	167,832
W1NN	148,554
W2ID	85,470
NØAC	104,438
K1XM	141,102
WJ9B	171,052
KH6/KB7G	108,216
N8II	96,854
	W9RE N7IV KØEJ W5MX N2NT (N2NC, op) KRØP (N5RZ, op) K5ZD N9RV W7RN (N6TV, op) N4AF N2IC NX4N K6LA K5GN VY2ZM K3UA N9CK NAØN K4RO W1NN W2ID NØAC K1XM WJ9B KH6/KB7G

Rocky Mountain	NN7A	55,440
Southeastern	N4KM	157,950
Southwestern	KI6RRN	145,440
West Gulf	wøuo	138,024
Canada	VE5SF	110,160
Single Operator, QRP		
Atlantic	WR3R	58,776
Central	WI9WI	61,200
Dakota	KEØTT	26,112
Delta	N4OGW	130,380
Great Lakes	N8BB	40,502
Hudson	K2YGM	44,020
Midwest	NØLY	57,900
New England	W1QK	103,194
Northwestern	W7YAQ	83,680
Pacific	W6JTI	81,844
Roanoke	K4QPL	69,608
Rocky Mountain	WA7LNW	86,670
Southeastern	K3TW	60,676
Southwestern	N7IR	88,320
West Gulf		16,402
Canada	N5DO	
Canada	VE6EX	104,960
Single Operator Unlimited, Hig	h Power	
Atlantic	K3MM	198,276
Central	K9CT	191,552
Dakota	KTØA	140,620
Delta	N800	195,160
Great Lakes	N4QS	102,664
Hudson	W2VQ	89,910
Midwest	NØXR	187,124
New England	W1SJ	163,782
Northwestern	K7QA	133,120
Pacific	W1SRD	162,688
Roanoke	N1LN	175,122
Rocky Mountain	KØEU	203,524
Southeastern	N4GG	190,512
Southwestern	K6LL	189,074
West Gulf	N5NA	159,732
Canada	VE7CC	165,240
Single Operator Unlimited Lou	v Dower	
Single Operator Unlimited, Lov Atlantic	N3HEE	121 024
Central	N9CO	121,824 132,840
		137,214
Dakota Delta	NØAT (NØKK, op) N4ZZ	179,088
	K8BKM	,
Great Lakes Hudson	-	122,400
	K2DFC KØVBU	71,520
Midwest New England	•	119,556
Northwestern	N1QD KB7Q	128,084
Pacific	•	164,754 149,526
	KH7B (K4XS, op)	
Roanoke Rocky Mountain	W4AAA (KK9A, op) WØZA	157,626
Rocky Mountain	·	123,360
Southwestern	KY4F	81,370
Southwestern West Gulf	K6PO	100,800
Canada	K5KJ	102,880
Canaua	VA3DF	112,752

Multioperator, Single Tra	nsmitter. High Power		K6LL	189,074	SOUHP
Atlantic	кооо	79,056	VE7CC	165,240	SOUHP
Hudson	WA2JQK	17,688	W7WW (W6RW, op)	163,672	SOUHP
Midwest	NØAX	196,472	W1SRD	162,688	SOUHP
Northwestern	K7RI	149,440	N6XG (WA6O, op)	161,352	SOUHP
Pacific	N6RO	•	Noxa (WAdo, op)	101,332	300116
Roanoke	W4RM	187,920	KB7Q	164,754	SOULP
	NN5K	182,932 124,312	KH7B (K4XS, op)	149,526	SOULP
Rocky Mountain			W6OAT	128,628	SOULP
Southwestern	W6YI	215,136	К6РО	100,800	SOULP
Multioperator, Single Tra	nsmitter, Low Power		K6WSC	89,052	SOULP
Atlantic	W2FU	167,360			
Central	KA9VVQ	48,384	W6YI	215,136	MSHP
Great Lakes	K4FT	39,680	N6RO	187,920	MSHP
New England	W1FM	63,680	KY7M	179,280	MSHP
Northwestern	NR7DX	108,420	K7RI	149,440	MSHP
Pacific	W6YX	154,980	N6NU	119,132	MSHP
Roanoke	W4TG	32,072	MCVV	154.000	MCLD
Rocky Mountain	WØDLE	142,722	W6YX	154,980	MSLP
Southwestern	W8TK	137,280	W8TK	137,280	MSLP
West Gulf	K5CM	160,064	NR7DX	108,420	MSLP
Canada	VE7KW	91,040	VE7KW	91,040	MSLP
Canada	VL/KVV	31,040	VA7KH	82,080	MSLP
School Club			Midwest Region		
Atlantic	K3GU	8,428	(Dakota, Midwest, Rocky M	ountain and West Gulf I	Divisions:
Central	K9IU	39,712	Manitoba and Saskatchewa		,
Delta	K5LSU	5,762	N2IC	225,760	SOHP
Midwest	кøнс	139,356	K5GN	205,176	SOHP
New England	W1AF	390	KRØP (N5RZ, op)	200,900	SOHP
Roanoke	W4FS	136,448	NR5M (K5GA, op)	200,232	SOHP
Southeastern	W4UAL	51,332	WXØB (AD5Q, op)	195,816	SOHP
West Gulf	N5XU	28,616	WX,00 (A03Q, 0p)	155,010	30111
			NAØN	148,362	SOLP
Regional Leaders			KØAD	145,152	SOLP
MSHP = Multioperator, Single	a Transmittar High Dowar		wø∪o	138,024	SOLP
MSLP = Multioperator, Single			N9NB	135,520	SOLP
S = School Club	2		W8FN	121,212	SOLP
SOHP = Single Operator, High	n Power			•	
SOLP = Single Operator, Low	Power		WA7LNW	86,670	SOQRP
SOQRP = Single Operator, QF	RP		NØLY	57,900	SOQRP
SOUHP = Single Operator Un	, 0		NØSSM	26,910	SOQRP
SOULP = Single Operator Unl	imited, Low Power		кефтт	26,112	SOQRP
			KØAV	24,924	SOQRP
West Coast Region			uden	202 524	6011115
(Pacific, Northwestern an		; Alberta,	KØEU	203,524	SOUHP
British Columbia and NT S	•		NØXR	187,124	SOUHP
W7RN (N6TV, op)	214,020	SOHP	N5FO	172,692	SOUHP
N9RV	210,600	SOHP	N5NA	159,732	SOUHP
K7JR (KL9A, op)	198,604	SOHP	N5XZ	148,072	SOUHP
K6LA	195,548	SOHP	NØAT (NØKK, op)	137,214	SOULP
WC6H	185,484	SOHP	WØZA	123,360	SOULP
MIOD	474.052	COLD	KØVBU	119,556	SOULP
WJ9B	171,052	SOLP		102,880	
KI6RRN	145,440	SOLP	K5KJ W5TM	102,880	SOULP SOULP
K2PO	136,776	SOLP	VVSTIVI	102,004	SOULP
KØSN	135,520	SOLP	NØAX	196,472	MSHP
KC7V	130,560	SOLP	ABØS	176,628	MSHP
			NN5K	124,312	MSHP
VE6EX	104,960	SOQRP	· · · · · · · · · · · · · · · · · · ·	:,0	
N7IR	88,320	SOQRP	K5CM	160,064	MSLP
W7YAQ	83,680	SOQRP	WØDLE	142,722	MSLP
W6JTI	81,844	SOQRP	WDØGTY	32,032	MSLP
W7ZRC	69,264	SOQRP	KK5OV	13,132	MSLP

кøнс	139,356	c			
N5XU	28,616	S S	N800	195,160	SOUHP
WØEEE	13,356	S S	N4GG	190,512	SOUHP
VVØLLL	13,330	3	N1LN	175,122	SOUHP
Central Region			N4BP	172,308	SOUHP
_	Divisions; Ontario East, On	itario North,	K2AV	163,344	SOUHP
Ontario South, and Greater Toronto Area Sections)				•	
W5MX	180,608	SOHP	N4ZZ	179,088	SOULP
W9RE	170,640	SOHP	W4AAA (KK9A, op)	157,626	SOULP
K3WA	141,860	SOHP	K4GMH	104,652	SOULP
K1LT	134,774	SOHP	N4UW	98,080	SOULP
NA8V	121,368	SOHP	KG3V	87,040	SOULP
NOCK	452.400	COLD	W4RM	182,932	MSHP
N9CK	152,480	SOLP	W4ZYT	16,284	MSHP
W1NN	148,554	SOLP		,	
W8WTS	131,040	SOLP	W4TG	32,072	MSLP
K9ZO	119,200	SOLP	NA/AFC	126 449	c
K9UIY	105,644	SOLP	W4FS W4UAL	136,448	S S
WI9WI	61,200	SOQRP	K5LSU	51,332 5,762	S S
N8BB	40,502	SOQRP	KSLSU	5,762	3
K9SE	38,766	SOQRP	Northeast Region		
AI9K	17,136	SOQRP	(New England, Hudson and	d Atlantic Divisions; Mari	time and
N8XX	14,732	SOQRP	Quebec Sections)	,	
			VY2ZM	204,844	SOHP
К9СТ	191,552	SOUHP	K5ZD	196,472	SOHP
N9TK	159,408	SOUHP	N2NT (N2NC, op)	193,590	SOHP
VE3CX	152,604	SOUHP	W2RQ	187,124	SOHP
VA3RAC (VE3KI, op)	145,314	SOUHP	AA3B	185,652	SOHP
N9LQ	138,400	SOUHP			
N9CO	132,840	SOULP	K3UA	143,424	SOLP
K9WX		SOULP	K1XM	141,102	SOLP
K8BKM	123,360 122,400	SOULP	K2LNS	126,444	SOLP
WT9U		SOULP	K1TR	112,654	SOLP
VA3DF	119,232 112,752	SOULP	K1BG	99,954	SOLP
VASUE	112,732	JOOLF	W1QK	103,194	SOQRP
KA9VVQ	48,384	MSLP	K1VUT	100,160	SOQRP
K4FT	39,680	MSLP	W1XX	76,650	SOQRP
W9ET	33,456	MSLP	K8CN	63,294	SOQRP
KEØL	20,460	MSLP	WR3R	58,776	SOQRP
N9MT	5,984	MSLP	Witsit	30,770	300111
WOUL.	20.742		КЗММ	198,276	SOUHP
K9IU	39,712	S	WR3Z	171,396	SOUHP
W9GRS	2,340	S	W1SJ	163,782	SOUHP
Southeast Region			AB3CX	156,492	SOUHP
(Delta, Roanoke and Sou	theastern Divisions)		N2MM	154,324	SOUHP
NX4N	191,066	SOHP	NAOD	120.004	COLLID
N4AF	176,464	SOHP	N1QD	128,084	SOULP
K4BAI	165,888	SOHP	N3HEE	121,824	SOULP
KØEJ	158,880	SOHP	K3MD	105,440	SOULP
KU8E	144,000	SOHP	W1UJ N4ZR	89,910 89,744	SOULP SOULP
			N4ZK	09,744	300LP
K4RO	167,832	SOLP	кфоо	79,056	MSHP
N4KM	157,950	SOLP	K3CCR	50,820	MSHP
K5KU	144,180	SOLP	WA2JQK	17,688	MSHP
N4KS	134,560	SOLP			
N4PN	134,294	SOLP	W2FU	167,360	MSLP
N4OGW	130,380	SOQRP	W1FM	63,680	MSLP
K4QPL	69,608	SOQRP	K3GU	8,428	S
K3TW	60,676	SOQRP	W1AF	390	S
N4CF	50,516	SOQRP	VV 1/ 11	330	3
N3GO	46,008	SOQRP			
	.0,000	33411			