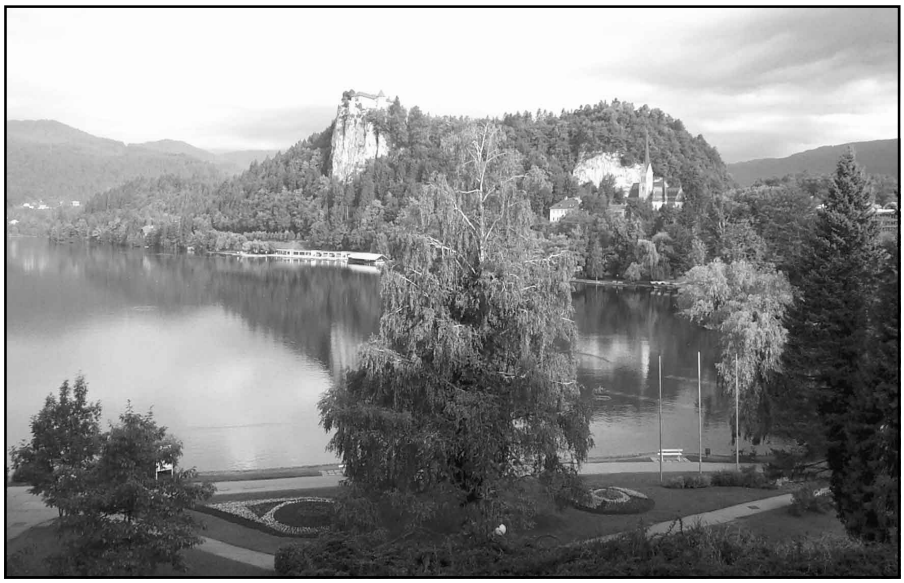
By David Sumner, K1ZZ

WRTC-2000: A Test of Teamwork in "The Green Piece of Europe"

A headline in last month's "Happenings" column carried the news: "WRTC Champs K1TO, N5TJ Do It Again in Slovenia." Competing on as level a playing field as has ever been devised for an international Amateur Radio operating event, Americans Dan Street and Jeff Steinman came out on top of a 53-team field in the World Radiosport Team Championship, held in the breathtakingly beautiful European country of Slovenia—"The Green Piece of Europe"—on the weekend of July 8-9.

Dan and Jeff's performance was a reprise of the previous WRTC, held in the San Francisco area in 1996. Not only did they win again, they did so again by a margin that put their #1 ranking in the world of Amateur Radio contesting beyond any question.



Lake Bled provided a fairy-tale setting for WRTC-2000.

What is WRTC?

The World Radiosport Team Championship is the worldwide contesting community's attempt to bring the finest operators in the world together to answer the perennial question: Who is *really* the best? In radio contests, differences caused by geography and station performance can override differences in operator skill. The WRTC concept is to neutralize the factors of geography and station performance to the greatest extent possible, so that operator skill becomes the principal variable. However, those who attended the first WRTC, in Seattle in 1990, discovered that the desire to compete that had brought them together became secondary to the sharing of their enthusiasm with like-minded people from other countries and cultures. That experience was duplicated in San Francisco and again in Slovenia.

Why Slovenia? Why Not?

This year's was the third WRTC and the first to be held outside the United States. Organized by the Slovenia Contest Club (SCC), WRTC-2000 was the most ambitious yet. The 13-member Organizing Committee accepted the challenge of finding and securing access to 53 hilltop or mountaintop locations, arranging for power and shelter if these were not already available, and installing 53 identical antenna systems (small Italian tribanders and Windom antennas, mounted about 40 feet above the ground). They shouldered the responsibility for hosting 106 competitors, 60 referees, and dozens of visitors who came to Slovenia just to be a part of the event. They wrote the rules for team selection and for the competition itself, distributed frequent communiques by electronic mail over a two-year period leading up to the event, and even responded to a late request from competitors by designing and building 53 special antenna switches to facilitate band-changing. They even arranged for the issuance of a commemorative postage stamp!

While the SCC assumed the overall burden, it would be unfair not to mention the support provided by radio clubs throughout the country. WRTC-2000 was a national undertaking for the radio amateurs of Slovenia. A former republic of Yugoslavia that became independent in 1991, Slovenia is about the size of New Jersey and has a population of a little less than two million, 7000 radio amateurs and 100 radio clubs of the national Amateur Radio society, Zveze Radioamaterjev Slovenije (ZRS). (The commemorative postage stamp was issued in part to mark the 50th anniversary of the

founding of ZRS.) A number of clubs loaned operating sites for the WRTC, in some cases stripping their regular antenna systems from towers so that the special WRTC antennas could be installed in their place.

Rules

Providing sites for 53 stations and 106 competitors was a massive undertaking, but many more contesters would have come to compete if there had been more spaces available. Some selection process was necessary. Slots were assigned to different European countries and to the other areas of the world based on the number of active contest operators in each. In the United States, which has the largest population of contest operators, each major contest club got to select a team member who then got to select a partner from another club. In addition, some "wild card" slots were filled based on individual performance in the most competitive international contests. In all, about 35 countries were represented by WRTC participants.

As in 1996, WRTC-2000 was a contest within a contest. It coincided with the IARU HF World Championship, a 24-hour dual-mode (phone and CW) event. However, WRTC stations were limited to 20 hours of operating time to provide an opportunity to take time off in the event of thunderstorms (a fortunate provision, as it turned out). No operation on 160 meters was allowed. Each team consisted of two operators. Two radios were in operation at each station, but the second could be used only for receiving. The usual limits on frequent band changes did not apply to WRTC stations; part of the challenge was to see how effectively the two operators could work together in using the second receiver to maximize their score. Transmitter power was limited to 100 W output. One computer was used at each station for logging and could be used to key the transmitter, but not for other control purposes.

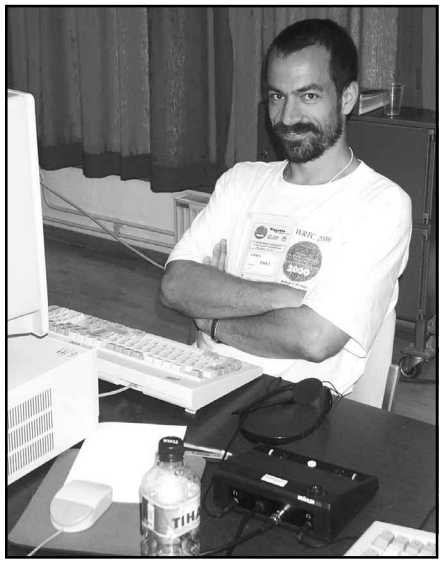
In most contests, each contact is worth a certain number of points (which may vary) and contact points are multiplied by the number of different geographic or other entities worked on each band, which are therefore called multipliers, to determine the total score. In the IARU HF World Championship, the multipliers are ITU zones and headquarters stations of IARU member-societies.

To give the WRTC-2000 competitors more to do, multipliers were counted separately on each band *and mode*. However, even though they were called multipliers they were not multiplied by the contact points to determine the WRTC score. Instead, there was a theoretical maximum score of 1000 points. The team with the highest score in a "pile-up simulation" test, held before the on-the-air operating event, was awarded 100 points. The teams with the greatest number of CW contacts, phone contacts, and multipliers were each awarded 300 points. The scores of the other teams were scaled accordingly. For example, if the team with the largest number of phone contacts had 900 contacts and your team had 600 phone contacts ($^2/_3$ of the top score), your team would receive 200 points ($^2/_3$ of the maximum of 300) for that part of the competition. To score well, a team had to balance its operating time between the two modes and to find multipliers while maintaining a high contact rate.

Referee 9A2AA (left) keeps tabs on G3SXW and G4BUO at S568Y.

The WRTC Experience

In all there are at least 300 people who shared the WRTC experience, so there are that many different perspectives of the event. Mine was that of chief referee, a post I was asked to fill by my longtime friend and Organizing Committee President Tine Brajnik, S50A. My wife Linda, KA1ZD, and I arrived in Slovenia on Tuesday, July 4. Driving into Bled, the lakeside mountain resort community that was to serve as WRTC headquarters, we were welcomed by roadside signs and overhead banners publicizing the event. WRTC was no secret: Everyone in town knew we were coming. At the registration site we immediately spotted the familiar faces of many old friends, and familiar call signs on badges of new friends who we had worked many times on the air but hadn't previously met.



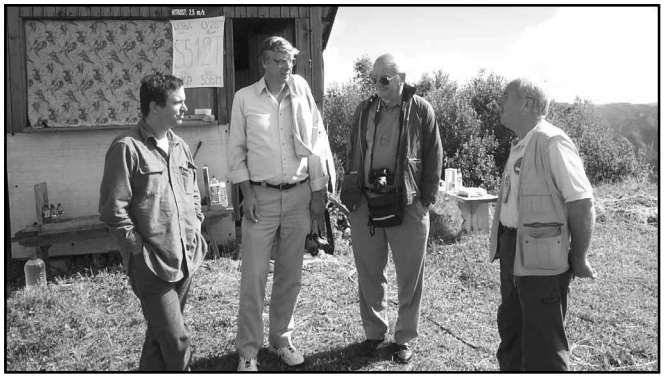
Chris, ZS6EZ, radiates confidence before the start of the pile-up simulation.

The next morning, Wednesday, several of us had the special treat of conducting inspections of some of the sites from which WRTC operations would take place. What made it special was that transportation was by Slovenian Army helicopter! Slovenia is an exceptionally picturesque country from ground level and is simply spectacular from the air. Landing on top of a 4000-foot mountain is an exhilarating experience if you've never done it before. The inspections included a visit to the short but beautiful Slovenian coastline that runs between the border with Croatia and Trieste, Italy.

Back in Bled, a picnic that afternoon was the first official event followed by a meeting of referees to go over their duties. Each team was assigned a referee whose job it was to monitor the operation to ensure compliance with the rules. The teams were required to submit their logs on computer diskette to the referee within 15 minutes of the time they finished operating.

While the competitors were the highest caliber of operators, the same was also true of the referees. Some referees were former competitors who could have qualified to compete again, but who chose instead to let someone else have the opportunity.

Thursday morning the competitors met with Organizing Committee President Tine Brajnik, S50A, and Competition Director



It was cold last night! Referee N5KO (left) fills in visitors N6AA, K4VX, and S50A outside the mountaintop S512T shack.

The American winners display their trophies: #3 K1DG, #1 K1TO, chief referee K1ZZ, Organizing Committee president S50A, #1 N5TJ, and #3 K1AR.

Robert Kašca, S53R, to hear explanations of the rules and to ask any last-minute questions they might have. Most questions had been answered in advance thanks to an efficient e-mail reflector set up by Tack Kumagai, JE1CKA. In the afternoon the pile-up simulation tests were held. These consisted of listening to recordings of simulated CW and phone pile-ups—that is, many stations calling at once—and trying to copy as many as possible of the 100 or so call signs in each recording. If you think this sounds easy you should try it sometime! In fact, you can: the recordings used in Bled are available on the WRTC Web site at **http://wrtc2000.bit.si/**. One team member could participate in both simulations or they could split the responsibility—it was up to each team to decide for themselves.

The first official task of my team of seven "main referees"—which included N6AA, UA2FZ, S53R, S50R, K4VX, and JE1CKA—was to adjudicate the pile-up simulation tests. We soon knew that K1TO and N5TJ had jumped into an early lead, largely on the strength of Dan's exceptional CW copying ability, but we weren't allowed to tell anyone.

At this point, Lew Gordon, K4VX, along with his wife Terry, NS0Z, and Ward, N0AX, were keeping busy as ARRL Volunteer Examiners filling the demand for dozens of FCC license exams. The pass rate was pretty high—the Morse code and the technical questions were no problem for this group!

Thursday evening saw the official opening of WRTC-2000 at an Olympic-style ceremony in a modern version of a town square, presided over by the mayor of Bled. The teams were introduced by country and marched into the square carrying signs for their country; their national flags festooned the square.

On Friday morning everyone gathered for the drawing of call signs. The call signs assigned for WRTC use were very unusual, consisting of the national S5 prefix fol-

From a Tiny Seed—WRTC 1990

By H. Ward Silver, N0AX

Extended conversations with other contesters have a certain element of danger to them. One often winds up with a brand-new, exciting project. Many of the popular on-the-air events got their start in just that way—over a cold 807 in a hospitality suite or on a tablecloth at a pancake house.

The event that became WRTC-1990 was the brainchild of Danny, K7SS, plus the midwifery and encouragement of Steve, K7LXC; Bob, K3EST; Rusty, W6OAT; Adam, K7ST and myself. The general idea was, "Why not eliminate the geographical inequities of contesting by bringing the contesters together to compete?" Seattle was hosting the Goodwill Games in 1990, so it seemed a natural to piggyback onto them an international ham radio event.

A committee was formed from the Seattle contesting community and planning got underway in 1989. Remember that in those days, the most advanced form of communications available was the fax machine! No email, no cellular phones. Looking back, it seems like we were chipping out messages on stone tablets to be carried back and forth on donkeys.

The teams were invited by the organizing committee—we received an excellent response almost instantly from every corner of the globe. As it turned out, 22 teams were able to attend. Our first big get-together in the back yard at K7SS was delightful; many of these top operators had never met in person.

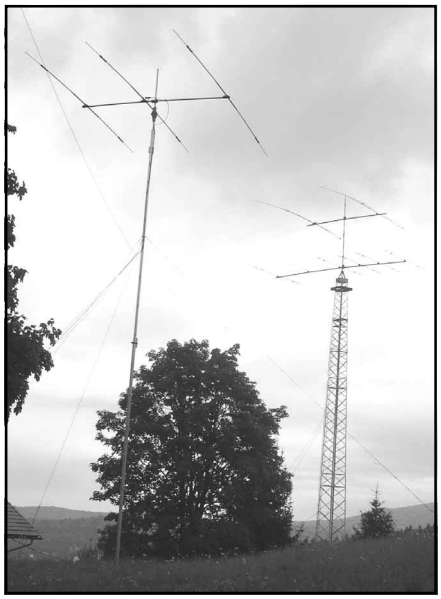
Interestingly, for several participants from the USSR, just then in the first flowerings of *perestroika,* this would be their first journey to the West. George, UA1DZ, for example, had even been forbidden to meet with foreigners at all just a few years before.

It was very difficult to arrange the licensing for so many foreign amateurs to use American call signs, which were randomly assigned from the pool of host stations in Seattle. This was not normal FCC procedure! The permission was really in doubt until just days before the contest when a Special Dispension was made by the FCC and a fax came through with the permission to go ahead.

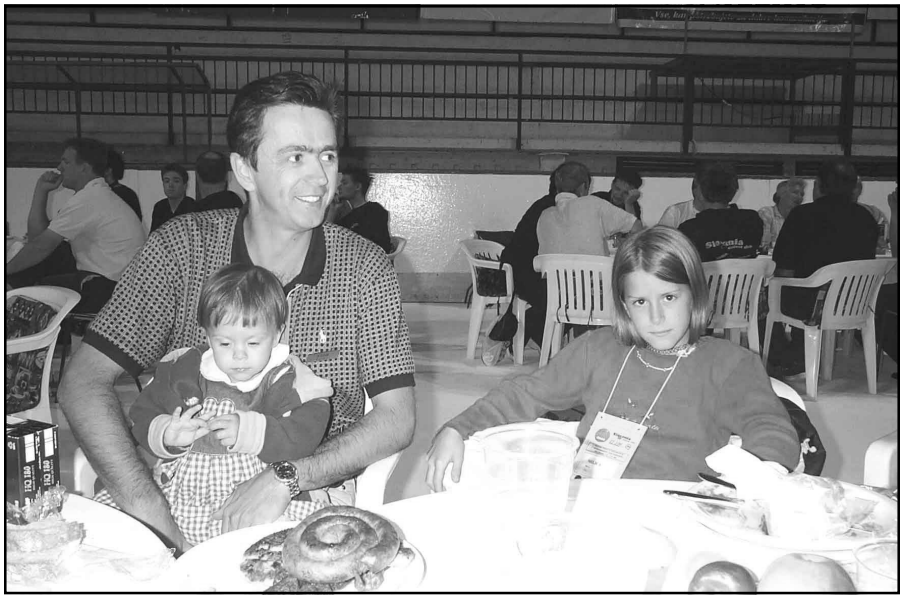
WRTC that year did not run coincident with the IARU HF Championship—it was a unique contest created just for that event. The committee had publicized it in the amateur press, but we had no idea if anyone other than the competitors would actually get on and operate. Once the opening bell rang, it was clear that those fears were groundless—QSO rates were great! The top stations made around 2000 QSOs and worked hams from every part of the globe. The contest ended with a spectacular over-the-pole midsummer's night opening to Europe. K1AR and K1DG brought home that first WRTC trophy.

Ham hospitality powered through and made the initial gathering a tremendous success. The operator teams were housed by individual families around the Puget Sound that provided transportation and entertainment. I took my team of UW9CA and UW9CN to a baseball game—a very strange sport to Yevgeny and Mikhail. Following the contest, everyone went to the Pacific Northwest DX Convention in Portland, Oregon, and a picnic in Olympia, the Washington state capital. When it became time to say goodbye, I can tell you that it was tough. Some lifetime friendships were formed that July.

So, the initial vision of WRTC lives on today, bigger and better than ever. The event is clearly gaining momentum and will be a mighty oak on the amateur scene for a long time. If you ever get a chance to attend, regardless of whether you're a competitor, take it! You'll be amazed at the energy you encounter, the friendships you'll make, and the good times you'll have. All this from the tiny acorn planted in Seattle a decade ago.



The regular station antennas at S59L in the background dwarf the WRTC tribander used by S539D.



WRTC-2000 was a family affair for many including referee Ranko, YT6A, from Montenegro. Ranko passed his FCC General Class exam and is now K3ZAX.

lowed by two more digits and one letter—for example, S511E, S522R, S584M, etc. They were selected so as to be nearly equal in length when sent on CW. Because they were so unusual, the complete list of 53 call signs was publicized in advance so operators in the IARU contest would know what to expect. However, no one—not even the referees— knew in advance which call signs were assigned to which operators. The assignments were made by random selection of the team members themselves who picked a sealed envelope with the call sign inside and handed it to their referee, who kept it sealed until five minutes before the start of the contest.

Team Finland, OH1EH and OH1NOA, listen to final instructions.

Robert, S57AW, and Mario, S56A, ran the pile-up simulation (and much more).

After the drawing the competitors headed with their referees and equipment to the station locations, which in some cases were several hours away. Slovenia is a small country but is very mountainous; getting from one place to another seldom involves going in a straight line. Station locations were spread all the way from the border with Hungary in the east to the Italian border in the west. Teams had the rest of Friday and Saturday morning to set up and check out their equipment, although in many cases there were also local parties held in their honor on Friday evening.

The contest began at 2 PM local time on Saturday. In some locations, thunderstorms were an immediate problem. Leo, S50R, Linda, KA1ZD, and I visited three sites Saturday afternoon and evening. The first was at the summer home of Leon, S59L, where the Belgian team of ON4WW and ON6TT were operating S539D. They had gotten off to a slow start: electrical power, normally very reliable in Slovenia, had been off just before the start and Leon had brought an emergency generator to use in case it didn't come back on in time. The storm had forced them to take their first hour of "off time" after just 8 minutes! When we arrived they were back on the air and unfazed by their bad luck; Mark and Peter ended up with the highest number of phone contacts.

Our next stop was at the home of Drago, S50Q, a few miles to the west of Leon's. Here, the Argentine team of LU7DW and LW9EUJ were operating S522R under the watchful eye of referee Tom Frenaye, K1KI. Drago had taken down his stacked 10-meter monobanders to make room for the WRTC tribander, but his stack of 15-meter monobanders on a second tower was impressive enough. Claudio and Martin were doing well in an unfamiliar environment; ultimately they achieved the highest score of any team from outside Europe, Russia, and North America.

It was getting dark and Linda was driving us down narrow, unfamiliar roads, but we had time for one more visit: To the summer home of Tine, S50A, and his wife Maca, S56MM. Tine was otherwise occupied, so Maca was hosting the British team of Roger, G3SXW, and Dave, G4BUO, along with referee Tom, 9A2AA. Roger and Dave's preference for CW was influencing their operating strategy, but they were clearly enjoying themselves. They might have wished they were using Tine's regular station antennas, which include 3-element beams for 80 and 40 meters at 130 feet!

Linda had a family commitment in Italy on Sunday, so I was invited to accompany Tine, Dick Norton, N6AA, and Lew, K4VX, on three more inspections. Our first trek took us to a genuine mountaintop, more than 1000 meters high, where the Lithuanian wild-card team of LY3BA and LY2BM were operating S512T from a

shack at the top of a ski lift. The ski lift was not operating, of course, but we could see snow that had fallen overnight on higher peaks nearby. Referee Trey Garlough, N5KO, told us it had been a pretty cold night on the mountain. The Lithuanians were intent on their operating and probably didn't know we were there. When the results were tabulated they were in a virtual dead heat with the other Lithuanian team, LY1DS and LY4AA, operating S524G.

Our second Sunday stop was just a couple of miles away as the crow flies, but we had neither crows nor helicopters to transport us so we had to drive back down the mountain, across the narrow valley through the interesting town of Idrija, and up the other side. Here we parked on the side of a hill at the bottom of a footpath that disappeared upward into the forest at about a 45-degree angle. Could this be the right place? After a climb of several hundred feet it turned out that it was: At the top of the hill was a tower with the now-familiar tribander and a cabin with the German wild-card team of Ben, DL6FBL, and Markus, DL1MFL, operating S511E. They were doing by far the best of any team we visited. Unfortunately, the diskette they turned over to referee Steve, HA0DU, at the end of the contest contained a truncated log file; the fruits of their last hour of operating were not on the disk. When the problem was discovered more than 24 hours later, the main referees had to make our most difficult decision of the week. We determined that under the rules, we could only accept the log as submitted at the end so we'd have a place to nap during the contest. We were served meals with the family and they brought in food while we were operating. Our experience was typical—except that our call sign, S5S, was the shortest and probably the worst that I can imagine inflicting upon a pair of CW enthusiasts. People would come by our run frequency, send "?" a couple of times just to hear us send our call, and then laugh at us. It was a great conversation topic at the closing event, though. Phil and I are still laughing about it.

There were many high points in the week of WRTC-2000. Pre-contest meetings were held with the organizers, competitors and judges to iron out last-minute rule changes. I was so impressed at how well the inevitable last-minute rule changes were handled. I remember the stress level I felt at that point in 1996, and I really appreciated how well our S5 colleagues handled the load of questions and little things that had to be taken care of.

After the contest, we all went on an excursion to an immense underground system of caves in Postojna. We took a quick little train for some minutes to get in and out of the caves. Because of the cold, several of us had rented green wool capes with hoods.

The final afternoon closing ceremony and evening dinner were the climax of the event. There were cameras everywhere. The winners were obviously elated and enjoyed the sincerely felt esteem of their peers.

After the closing ceremony we went back to the Ice Palace for a final meal together, lots of talk, great food and drink, more pictures, and more friends. Lane and his wife, our station hosts, drove up to Bled again to share in the festivities. Many of the station hosts were there to share the dinner with their teams. It was a very special time.

The world is smaller for us now. I'd never been to Slovenia, and I wasn't quite sure what to expect. What I found was a very pretty forested little European country. The food is great. The people are really friendly. And we've made some life-long friends. And that, for me, is what this hobby is about.

How WRTC has Grown!

By Dick Dievendorff, K6KR

The 1990 WRTC in Seattle (see the sidebar by N0AX) was a groundbreaking event and brought together for the first time contesters from both sides of the then existing Iron Curtain as well as a handful of prominent contesters from other countries.

When the Northern California Contest Club was given the opportunity to host WRTC-96, a handful of the club's officers joined forces to organize a somewhat larger effort. We received some guidance from our Seattle predecessors but decided to expand the format and made the contest our own. It was a great success but, given the great contestants, invited officials, host stations, sponsors, and guests, it couldn't have turned out any other way.

We were surprised at the size and commitment of the Slovenian contingent to the San Francisco WRTC. We'd all worked these guys in years of contests, and it was a delight to put faces to call signs. During one of the final parties a good number of the WRTC competitors were wearing badges with calls like S5/WN4KKN. The beverages flowed; wonderful pizzas were consumed by one and all; it was a great event. I remember thinking that "someday" I'd have to get to Slovenia.

WRTC-2000 offered the perfect excuse to realize my dream of finally visiting Slovenia, even though I wouldn't be officially involved in the event. My wife Laurene, bless her heart, was genuinely enthusiastic about becoming a tourist in Slovenia. She'd had a good time at WRTC-96 and was looking forward to meeting another great group of contesters again. She even passed her license exam in honor of the event!

So we made our way to Bled, knowing that we would have a great time. And we certainly did! Our colleagues learned from what went well at WRTC-96 and also from what could have gone better. These delightful people extended a tremendous effort to make us all welcome. The Slovenian Post Office issued a commemorative stamp. There were WRTC stories in the media and several of the teams gave interviews to television news shows. There were posters all over town. The hotels knew who we were.

At the formal opening the teams were introduced, in the style of the Olympic Games, country by country, each carrying their national sign. There were short speeches by the organizers, judges and Bled's mayor. There were demonstrations of folk dancing and jazz dancing. And when the WRTC-2000 president, Tine Brajnik, stepped up to talk with us, it took a while for the chants of "Tine! Tine! Tine!" to die down.

Many of the contestants had wonderful stories of special events as each town greeted "Our Team." There were parties, meals, outings, dancing, fireworks, plenty of time to swap lies, and some genuinely emotional moments. Despite some political difficulties in this area of the world, we saw numerous examples of individuals, sharing a love of amateur radio and a passion for contesting, seeking each other out for reunions and new friendships.

The organizers had even made arrangements for some of the non-competitors to "find a seat" and operate in the contest. Phil Goetz, N6ZZ, and I were offered an opportunity to operate at the home of Lane, S54AA, in Kranj. Lane and his wife gave up their bed

The Slovenian post office issued a WRTC commemorative stamp.

WRTC 2000 Results

See text for explanation of points. "Q" =QSOs; "% QSO" is the percentage of contacts removed for logging errors.

Place	OP1	OP2	Call	Score	On-Air	Pileup	Pts/CW	Pts/Ph	Pts/Mul	Q-CW	Q-Ph	Q-Total	Mult	%QSO
1	K1TO	N5TJ	S584M	965.31	865.31	100.00	300.00	299.37	265.94	1277	957	2234	367	-0.7
2	RA3AUU	RV1AW	S587N	910.86	830.33	80.53	253.48	276.85	300.00	1079	885	1964	414	-0.7
3	K1DG	K1AR	S582A	867.15	784.85	82.30	266.64	299.37	218.84	1135	957	2092	302	-1.4
4	DL1IAO	DL2MEH	S517W	866.10	779.37	86.73	244.09	269.34	265.94	1039	861	1900	367	-1.3
5	OH1EH	OH1NOA	S537L	846.15	757.65	88.50	236.57	265.28	255.80	1007	848	1855	353	-1.1
6	DL6FBL	DL1MFL	S511E***	845.19	766.43	78.76	192.87	284.67	288.89	821	910	1731	390	-1.0
7	UT4UZ	RW1AC	S523W	837.19	745.15	92.04	230.46	241.50	273.19	981	772	1753	377	-0.8
8	9A9A	9A3GW	S573O	825.02	747.14	77.88	210.02	294.37	242.75	894	941	1835	335	-1.3
9	KQ2M	W7WA	S519I	820.29	745.07	75.22	209.79	269.34	265.94	893	861	1754	367	-1.9
10	DL6RAI	OE2VEL	S533G	813.16	723.78	89.38	199.92	236.18	287.68	851	755	1606	397	-1.6
11	VE7ZO	VE3EJ	S581I	812.11	736.89	75.22	204.62	267.78	264.49	871	856	1727	365	-1.3
12	K6LA	K5ZD	S518N	808.71	715.79	92.92	214.02	243.07	258.70	911	777	1688	357	-1.2
13	K1ZM	N2NT	S531R	804.89	711.97	92.92	224.35	277.48	210.14	955	887	1842	290	-1.6
14	LY1DS	LY4AA	S524G	793.93	701.01	92.92	192.17	218.98	289.86	818	700	1518	400	-1.3
15	LY3BA	LY2BM	S512T	789.31	705.24	84.07	206.73	265.90	232.61	880	850	1730	321	-1.1
16	UT5UGR	UU2JZ	S548X	782.03	694.42	87.61	234.69	229.30	230.43	999	733	1732	318	-1.6
17	RZ9UA	UA3DPX	S549L	780.90	711.87	69.03	189.12	268.40	254.35	805	858	1663	351	-1.2
18	HA3OV	HA3NU	S536P	770.73	688.43	82.30	202.74	239.31	246.38	863	765	1628	340	-2.0
19	ON4WW	ON6TT	S539D	762.44	710.23	52.21	185.59	300.00	224.64	790	959	1749	310	-1.2
20	IK2QEI	I2VXJ	S562P	759.55	684.33	75.22	252.31	205.21	226.81	1074	656	1730	313	-2.3
21	EA3NY	EA3KU	S567F	755.26	695.97	59.29	224.35	227.42	244.20	955	727	1682	337	-1.2
22	OM3BH	OM3GI	S528D	753.65	676.66	76.99	227.64	221.48	227.54	969	708	1677	314	-0.8
23	K8NZ	W2GD	S526O	751.33	683.19	68.14	228.58	206.78	247.83	973	661	1634	342	-1.4
24	G3SXW	G4BUO	S568Y	745.19	657.58	87.61	268.75	143.90	244.93	1144	460	1604	338	-0.8
25	YT1AD	YU7NU	S544Z	741.77	669.20	72.57	171.73	265.59	231.88	731	849	1580	320	-2.0
26	UA9BA	RN9AO	S577V	738.10	663.76	74.34	176.90	215.85	271.01	753	690	1443	374	-1.1
27	K4UEE	N6IG	S546Q	733.57	666.31	67.26	227.88	203.65	234.78	970	651	1621	324	-1.2
28	LW9EUJ	LU7DW	S522R	726.77	654.20	72.57	210.26	249.01	194.93	895	796	1691	269	-1.7
29	K9TM	N2IC	S574V	719.80	649.00	70.80	217.07	205.84	226.09	924	658	1582	312	-1.0
30	9A3A	9A2AJ	S542B	714.54	635.78	78.76	266.41	129.51	239.86	1134	414	1548	331	-1.0
31	DL2CC	DL5XL	S583D	712.67	639.22	73.45	231.87	157.35	250.00	987	503	1490	345	-2.1
32	WC4E	W0UA	S588S	709.69	629.16	80.53	205.09	207.40	216.67	873	663	1536	299	-1.8
33	ZS6EZ	ZS4TX	S572L	705.67	621.60	84.07	177.84	224.92	218.84	757	719	1476	302	-0.4
34	K4BAI	K6LL	S534J	703.51	611.47	92.04	227.88	149.53	234.06	970	478	1448	323	-0.5
35	5B4WN	5B4LP	S529A	697.96	635.13	62.83	215.19	194.58	225.36	916	622	1538	311	-1.3
36	S59A	S58A	S541F	694.05	626.79	67.26	241.97	176.12	208.70	1030	563	1593	288	-1.2
37	K3NA	N6TV	S571W	691.31	603.70	87.61	244.32	137.64	221.74	1040	440	1480	306	-1.3
38	PP5JR	PY2NY	S532N	689.28	631.76	57.52	204.86	239.94	186.96	872	767	1639	258	-1.4
39	VE7SV	VA7RR	S521H	683.68	615.54	68.14	198.28	195.52	221.74	844	625	1469	306	-0.6
40	OK1QM	OL5Y	S586U	679.75	622.23	57.52	228.82	190.51	202.90	974	609	1583	280	-0.9
41	JM1CAX	JO1RUR	S514U	667.35	614.25	53.10	204.62	186.44	223.19	871	596	1467	308	-1.4
42	K9ZO	K7BV	S566Z	661.86	600.80	61.06	181.13	200.83	218.84	771	642	1413	302	-2.1
43	PY5CC	PY1KN	S578R	653.71	597.07	56.64	175.49	234.62	186.96	747	750	1497	258	-2.0
44	S50U	S51TA	S538F	644.92	578.55	66.37	190.99	167.99	219.57	813	537	1350	303	-2.8
45	VE3BMV	VE3KZ	S561C	644.16	593.72	50.44	190.76	194.26	208.70	812	621	1433	288	-1.5
46	F6BEE	F6FGZ	S543C	642.02	581.84	60.18	236.57	146.72	198.55	1007	469	1476	274	-1.2
47	SP8NR	SP9HWN	S547B	638.69	582.05	56.64	233.05	132.33	216.67	992	423	1415	299	-1.9
48	JH4NMT	JK3GAD	S527K	618.51	557.45	61.06	198.04	142.02	217.39	843	454	1297	300	-1.4
49	JA8RWU	JH4RHF	S513A	617.99	554.27	63.72	241.03	127.01	186.23	1026	406	1432	257	-0.9
50	EA7GTF	EA7KW	S516M	582.68	536.66	46.02	140.96	192.08	203.62	600	614	1214	281	-2.3
51	N3AD	N3BB	S563X	567.29	511.54	55.75	224.12	106.99	180.43	954	342	1296	249	-1.5
52	VK4EMM	VK4XY	S564Q	511.92	448.20	63.72	194.52	79.77	173.91	828	255	1083	240	-1.7
53	I5NSR	I5JHW	S576K	431.76	405.21	26.55	94.91	163.92	146.38	404	524	928	202	-6.3

*** S511E score based on submission of truncated log, missing approximately one hour of operation

of the contest and could not count the missing contacts. Even with the missing hour, Ben and Markus placed a strong 6th—a remarkable showing in an extremely competitive field.

Our final visit was to a farm belonging to the parents of Darko, S54DL, who has his contest station at the top of an impressive hill behind their home. The contest wasn't quite over, but John, K4BAI, and Dave, K6LL, had used their 20 hours of operating time as S534J without taking a break and had already dismantled their station. John and Dave had been on separate teams that had placed 2nd and 3rd in San Francisco and it was plain to see that they were disappointed with their results this time. They weren't unhappy, though; they both had a custom-made wooden clock that had been given to them by Darko and by their referee, Mirko, S57AD, bearing all four call signs and a depiction of the hilltop on which they had spent their weekend. John and Dave have plenty of certificates and plaques on their shack walls, but I suspect they made room for those clocks as soon as they got home.

By the time we made our way back to Bled, some teams had already returned and it was time for the main referees to go to work. Well, most of the work was done by Dick, N6AA, with off-site assistance by Larry, N6TW, in California; the rest of us contributed more opinions than actual labor. Thanks to the cooperation of contesters throughout the world, we were able to use a data base containing more than 300 logs to help us adjudicate the results. Even with a computer, scoring 53 logs contain-

"Dobor Den (Good Day)" from Slovenia—WRTC-2000

By H. Ward Silver, N0AX

My goodness, it's a long way from Seattle 1990 and the very first World Radiosport Team Championship! For one thing, there's e-mail—I can't imagine how we pulled it off back then. I was honored to have been a referee at the 2000 edition of the WRTC, hosted this summer by the Slovenia Contest Club. I was also a member of the group that created the first WRTC ten years ago and was also a referee at the 1996 WRTC, held in San Francisco.

There was never a serious question of whether I would attend WRTC-2000—it was only a question of how long I'd stay and whether my whole family would go. When I was invited to attend as a referee that was just icing on the cake! As it turned out, my wife, Nancy, and sons, Lowell KD7DQO and Webster KD7FYX came along and we had the adventure of a lifetime.

I was assigned to "European Wild Card Team #4"—Wolf, OE2VEL, and Ben, DL6RAI. We were hosted by Stanko, S50S, whose station was in far eastern Slovenia in a region called Pomurje ("PO-mur-ya"). There were six stations hosted by members of the Pomurje Radio Club. I had never met Ben, Wolf, or Stanko in person before, but as hams know, the ice breaks quickly and with only a little language barrier to overcome, we quickly turned into a lean, mean, WRTC machine.

On July 7 we took in the final instructions, received the sealed envelopes with our callsigns, the latest software, and were told to move out! I believe that of all the teams, we had the longest drive so Stanko began earning his nickname, "Speedy." We flew through picturesque towns and valleys—I particularly enjoyed the protocol for passing on two-lane roads...it's a LOT like contesting. Soon, we passed the largest city of Pomurje, Murska Sobota, just a few km from S50S. There was a welcome interlude at a roadside "Gastilnje" (restaurant) with a tall, cool Lasko beer and a plate of meat, cheese and vegetables. During our trip, I think Stanko set a record for number of cellular phone calls received. His phone plays the first four bars of "The Hungarian Polka" for a ringing signal—I believe I have it memorized.

Stanko's QTH is on a hilltop in rolling countryside. From his tower you can see Austria, Hungary, and Croatia as well as Slovenia. Below us stretched a vista of red clay tile roofs, church spires, and farmland turning a summer yellow and green. The operators immediately set up the radios—uh, oh! S9 static crashes were abundant, even on 10-meters, due to the thunderstorms making their way across the country. This could be trouble!

But there was no time to worry about it—we were bundled back into the Stanko-mobile and rushed to a banquet. We arrived at a hilltop local club with a pig on a spit and a number of the local hams making our dinner. All six of the Pomurje teams were greatly pleased with our locations and in awe of the hospitality.

At the banquet, we were greeted with a speech from the mayor and also received a bag of presents, including some excellent Pomurje wine! I did my best to make a thank-you speech with the able translation of Jelka, S57NW. Dinner, along with the roast pork, consisted of a spicy stew called "Bogorich" which I understand was somewhat milder than usual in deference to our tender palates. Beer and wine flowed with the toasts and there was much conversation with the local hams who spoke excellent English. It would have been very easy, indeed, to carry on until the sunrise opening, but duty called and we headed back to our respective QTHs. On the way, Stanko pulled over in a tiny hamlet, where another round of Laskos was ordered for me and Rich, N6KT—this was an inn adjacent to where Stanko was born! We hoisted our glasses in his honor.

Saturday morning was cool and cloudy. While Wolf and Ben were left to assemble and test their station, N6KT, Jelka, Stanko and I set off in pursuit of Visited All Pomurje. During the next three hours, we dashed about getting a look at the Canadian, Croatian, French, Slovenia, and Lithuanian locations—all excellent hilltops sporting the requisite 3-element tribander at 12 meters and off-center Windom-style dipole. The French team was adjacent to a large vineyard—ah, but *oui!*

Arriving back home, S5/N0AX made a short appearance. Then Wolf and Ben were up in the blocks and ready to go. At 1155Z, I made as much ceremony as possible out of opening the secret envelope with the call sign—S533G! Knuckles were cracked, throats were cleared, chairs were shifted and—they're off! Ben started on CW with Wolf tuning for multipliers.

As with all contests, the action was fast and furious. The static crashes of the previous day were notably absent—the low clouds had begun a soft rain, which turned out to be a tremendous blessing. While teams further west were taking the brunt of the weather, even to the point of losing power, our S meters stayed far to the left. That night, the team was even able to run on 75-meter 'phone, picking up a number of valuable multipliers on 40 and 80.

Ben and Wolf finished with a good hour and pulled the plug. It looked like we were the local champs, but what of the 47 other teams? Rapidly, the station was disassembled, we toasted our hosts and his excellent QTH, wishing we could have used all that steel and aluminum so close at hand. Then back to Bled we sped. As it turned out, Wolf and Ben finished tenth. They had never operated together before and should be extremely pleased with their performance. They gave me very little to report as a referee and I enjoyed their excellent operating.

Concluding, I would like to once again thank our host, S50S, and all the members of the Pomurje Radio Club that made our visit to their part of the world an excellent and memorable event. Wolf and Ben, thanks for being such a great team. All I can say is, the next group has a high standard to meet and I'll be there for that one, too!

ing 85,000 contacts in less than 24 hours is no mean feat. The positions of the first two finishers were very clear, but there was a real horse race for #3 and we had to be very careful to apply the same standard to both contenders for that coveted position. I don't think Dick would mind being called a perfectionist, so I will because it's true; he was still working to perfect the results 15 minutes before the awards ceremony.

When the dust settled, Doug, K1DG, and John, K1AR—the winners of the first WRTC in 1990—were in third place. In second place was the European Russian team of Harry, RA3AUU, and Arno, RV1AW—the first time anyone other than Americans have finished "in the money." They also collected the award for achieving the highest multiplier. First place, along with the awards for the most CW contacts and the highest score in the pile-up simulation, went to K1TO and N5TJ. What did it take to win? Dan and Jeff made 2234 contacts in 20 hours—a rate of just under two contacts per minute. And remember, this was with 100 watts and small antennas. You can look at their log—indeed, at all 53 logs—at the WRTC Web site.

And so it was over—well, not quite. The closing party went on past 3 AM and was interrupted only by a quick trip to the lake at midnight to watch fireworks in our honor. As I said, everyone in town knew we were there. It was hard to say goodbye.

WRTC-200x?

When and where will the next WRTC be held? That's hard to say. Hosting such an event represents a commitment to raise a lot of money, and for volunteers to devote thousands of hours to many thankless, behind-the-scenes, but absolutely essential jobs. One thing is certain: Once you've been to a WRTC, you won't want to miss the next one. QST

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