

TO: AL & REX
FROM: BOB

I REVIEWED ALL OF THE RESULTS OF THE BUFFALO CHAMPIONSHIPS, AS NOTED IN THE NATIONAL MASTERS NEWS.

ENCLOSED ARE THE STATISTICS.

ASSUMING THAT 900+ WOULD QUALIFY A WORLD CLASS PERFORMANCE; 800+ NATIONAL; 700+ REGIONAL; AND 500-699 LOCAL, THEN ONLY 31% OF THE WINNERS TURNED IN WORLD CLASS PERFORMANCES. THE BULK OF THE WINNERS (43%) ONLY TURNED IN NATIONAL CLASS TIMES.

BOTH THE MALE AND FEMALE 55 YEAR OLD DIVISION SCORED THE BEST COMPOSITE SCORES. THEREAFTER, THERE WAS A STEADY PROGRESSION DOWNWARD IN EACH SUBSEQUENT AGE GROUP.

IF WAVA WISHES TO KEEP TO THE THEORY THAT 900+ IS WORLD CLASS THEN EITHER THE TABLES SHOULD BE MODIFIED, OR THE NUMBER TO BE CONSIDERED WORLD CLASS SHOULD BE LOWERED TO 850 OR EVEN 800.

IF PLACING BECOMES THE MAJOR DETERMINANT OF "WORLD CLASS", THEN ANYONE REACHING THE FINAL, OR THE TOP EIGHT, SHOULD HAVE THAT DESIGNATION. TAKING THE AG POINTS OF THE LAST PLACE FINISHERS IN ALL OF THE FINALS, ONLY SIX SCORED OVER 900 POINTS. I JUST GOT TOO TIRED TO REVIEW ALL OF THE RESULTS FOR THE LAST PLACE FINALISTS, BUT A CURSORY REVIEW WOULD SEEM TO INDICATE THAT THE BULK OF THEM SCORED 700 POINTS OR LESS.

I AM AWARE THAT A FEW OUTSTANDING ATHLETES CAN "WARP" THE TABLES, BUT I WOULD ARGUE THAT A FINALIST IN THE WORLD CHAMPIONSHIPS SHOULD BE CONSIDERED WORLD CLASS (EXCEPT FOR PERFORMANCES ON THE LEVEL OF SUN BONNET SUB).

THE BOTTOM LINE BEING THAT YOU AND THE WAVA AG COMMITTEE SHOULD SAY, "GOODBYE", TO FAMILY AND FRIENDS WHEN YOU NEXT REVIEW THE TABLES, AND BE PREPARED TO SPEND WEEKS ON ANY REVISION OF THE TABLES.

I CAN'T THINK OF A MORE THANKLESS JOB, OTHER THAN BEING THE PARENT OF A TEENAGER. TAKE MY ANALYSIS FOR WHAT IT IS WORTH - DO NOT BECOME INSOMNIACS BECAUSE OF THIS EPISTLE.

BA

WAVA CHAMPIONSHIPS AGE GRADING POINTS

	N40	N45	N50	N55	N60	N65	N70	N75	N80	N85	N90	N95	N100	N105	N110	N115	N120	N125	N130	N135	N140	N145	N150	N155	N160	N165	N170	N175	N180	N185	AVERAGE PER EVENT	
100	911	912	962	974	966	959	977	907	894	859	719	847	869	914	940	911	983	920	914	801	812	696	109									891
200	913	894	942	930	926	898	897	846	868	810	664	862	875	927	928	916	906	897	866	756	712	549	200									853
400	959	940	958	969	995	969	929	910	868	754	580	819	846	940	956	907	907	867	870	716	662		400									876
600	854	935	944	933	926	996	906	841	821	650	583	871	874	915	882	914	864	798	858	577	715		600									841
1500	921	942	935	921	921	943	918	855	813	661		866	865	854	903	894	842	801	900	847	748		1500									870
5000	840	914	924	913	915	874	897	821	790	647	570	806	830	830	897	901	850	809	860	804	658		5000									830
10000	883	896	919	896	907	873	906	815	759	633	613	774	791	875	844	830	850	845	724	794	635		10000									816
INT. HURD	893	934	936	901	902	974	857	802	762			875	915	863	857	874	814	794														INT HURD 883
H.H.	892	909	903	937	863	853	857	819	899			855	862	925	832	865	753	833														HIGH HURD 865
STREPL	887	905	965	965	909	822	905	805	830			777	831	836	876	763	737															STREPL 854
H.J.	972	921	912	886	943	934	888	860	802	748	844	907	945	912	953	907	873	865	888	813	792											HIGH JUMP 883
P.V.	839	921	860	956	815	862	980	640	751	690		735	791	909	766	759	429	766	661													POIN. VATE 791
L.J.	870	889	949	978	894	913	852	810	875	727	610	765	824	877	840	919	883	793	872	531	582	636										LONG JUMP 855
P.L.	872	909	929	1026	899	937	902	826	939	771	518	823	866	830	819	816	819	820	814	553	653	787										TRIPLE JUMP 771
SHOT	820	805	862	933	942	1000	910	942	947	776	897	579	679	692	728	838	935	847	836	709	835	886										SHOT PUT 877
DISCUS	671	732	896	860	893	848	780	828	860	644	824	662	623	611	714	841	828	792	645	688	459											DISCUS 750
HAMMER	800	854	911	893	920	948	884	770	677	546		685	793	901	891	994	1020	757	792	527	609	750										HAMMER 895
JAV	751	853	890	938	831	649	864	803	786	380	311	550	750	778	882	926	776	806	181	137	177											JAVELIN 756
5K WALK	863	885	820	836	812	802	852	804	779	799	683	908	856	856	867	839	863	885	820	836	812	802										5K WALK 846

AGE	N40	N45	N50	N55	N60	N65	N70	N75	N80	N85	N90	N95	N100	N105	N110	N115	N120	N125	N130	N135	N140	N145	N150	N155	N160	N165	N170	N175	N180	N185	AVERAGE	EVENT
BY AGE	866	892	920	937	916	916	883	871	824	703	647	784	831	838	866	887	840	827	806	705	684	628										842
TOTALS																																

1000+				1		1											1															1000+ 3 0.78%		
900+	5	11	14	14	14	10	8	5	2			2	2	8	5	11	4	1	2													900+ 116 30.19%		
800+	12	7	5	4	5	8	10	14	10	2	3	9	11	8	17	5	10	11	9	5	3	2										800+ 165 42.86%		
700+	1	1					1	1	6	6	1	4	4	1	3	2	3	6	2	4	4	2										700+ 52 13.51%		
600+	1							1	1	6	4	2	2	2					2	1	5	2										600+ 29 7.53%		
500+											2	4	2							1	1	2	1										500+ 17 4.42%	
400+																		1																400+ 2 0.52%
300+												1																						300+ 1 0.26%

TOTAL # OF CHAMPIONS 385

OF THE LAST PLACE FINISHERS LISTED IN EACH OF THE 386 FINALS. NOTED IN THE NATIONAL MASTERS NEWS. ONLY 6 SCORED HIGHER THAN 900 POINTS (.0153%)

WAVA CHAMPIONSHIPS AGE GRADING POINTS

	M46	M48	M50	M55	M60	M65	M70	M75	M80	M85	M90	M95	M100	M105	M110	M115	M120	M125	M130	M135	M140	M145	M150	M155	M160	M165	M170	M175	M180	M185	AVERAGE		
100	911	912	962	974	966	959	977	907	894	839	717	847	869	914	948	951	983	920	914	801	812	696	209									291	
200	913	894	942	930	926	928	897	884	868	810	664	862	875	927	920	916	906	897	866	756	712	549	200									833	
400	959	940	958	969	995	969	929	910	868	794	580	819	848	944	956	907	907	867	870	736	662	400										876	
800	934	933	944	923	926	999	900	841	831	650	583	871	874	915	882	914	864	798	858	577	723	800										841	
1500	921	942	935	921	921	943	918	855	813	661		866	865	854	881	894	847	801	800	847	748	1500										870	
3000	890	914	924	913	915	879	897	821	790	647	570	806	830	830	897	901	850	809	860	804	658	3000										830	
10000	883	896	919	896	907	873	906	815	759	633	513	774	791	825	884	830	850	845	724	794	635	10000										816	
INT. M	893	924	936	931	902	974	857	802	762			875	915	863	857	874	814	794				INT. M										887	
H.H.	892	909	903	927	865	853	857	810	839			855	862	925	832	865	753	823				H.H.										863	
STREPL	887	905	965	965	909	822	905	806	830			777	831	836	876	763	737					STREPL										854	
B.J.	871	921	912	886	943	934	886	860	802	748	844	907	945	917	953	987	873	865	888	813	792	B.J.										883	
P.V.	859	921	860	956	815	862	900	640	751	690		735	791	909	766	759	429	766	661			P.V.										881	
L.J.	870	889	949	978	894	913	862	810	875	727	610	765	829	877	840	919	883	793	872	531	582	536	L.J.										885
T.L.	872	909	929	1026	899	937	902	826	939	771	518	823	864	850	850	834	819	824	814	553	653	787	T.L.										887
SHOT	870	854	862	923	842	1000	910	942	967	776	897	579	679	697	724	838	935	847	836	739	833	886	SHOT										877
DISCUS	671	732	896	860	895	848	780	828	860	644	824	661	622	611	714	841	828	792	645	688	459	DISCUS											750
HAMMER	800	854	911	895	920	948	884	770	677	546		685	703	901	891	894	1020	757	792	587	609	750	HAMMER										895
JAV	751	853	890	938	831	549	864	803	786	350	311	350	730	778	882	826	776	804	585	337	577	JAV											736
5K WALK	843	872	878	924	944	864	852	804	779	709	683	908	856	856	867	859	863	885	820	836	812	802	5K WALK										846

AGE	M46	M48	M50	M55	M60	M65	M70	M75	M80	M85	M90	M95	M100	M105	M110	M115	M120	M125	M130	M135	M140	M145	M150	M155	M160	M165	M170	M175	M180	M185	EVENT	
BY AGE	866	892	920	935	916	916	883	831	824	793	647	789	831	839	866	887	840	827	806	705	684	628	AVERAGE	842								

	TOTALS																																					
1000+				1		1																				1						1000+	3	0.78%				
900+	5	11	14	14	14	10	8	3	2			2	2	8	3	11	4	1	2							4	1	2				900+	114	20.13%				
800+	12	7	3	4	3	8	10	14	10	2	3	9	11	8	17	5	10	11	9	5	3	2											800+	165	42.86%			
700+	1	1					1	1	6	6	1	4	4	1	3	2	3	6	2	4	4	2												700+	52	13.51%		
600+	1							1	1	6	4	2	2	2					2	1	5	2												600+	29	7.53%		
500+											2	4	2							1	5	2	1												500+	17	4.42%	
400+																										1										400+	2	0.52%
300+											1																									300+	1	0.26%

TOTAL # OF CHAMPIONS 385

OF THE LAST PLACE FINISHERS LISTED IN EACH OF THE 386 FINALS, NOTED IN THE NATIONAL MASTERS NEWS, ONLY 6 SCORED HIGHER THAN 900 POINTS [0.155%]

Ref AGE-GRADED TABLES.

Ac
THIS WAS SENT TO ME RECENTLY. HOPE IT'S OF INTEREST.
Rob

1985 IAAF Computer Formulas

The 1985 IAAF scoring tables are generated by the following mathematical formulas.

Running Events: Points = a (b - Performance)^c
 Jumping and Throwing Events: Points = a (Performance - b)^c

WOMEN:

60 m	a=46.0849	b=13s	c=1.81
100m	a=17.857	b=21s	c=1.81
<u>200m</u>	a=4.99087	b= 24.5s 42.5	c=1.81
<u>800m</u>	a=.11193	b=254s	c= 1.81 1.88
60m hurdle	a=20.0479	b=17s	c=1.835
100m hurdle	a=9.23076	b=26.7s	c=1.835
high jump	a=1.84523	b=75cm	c=1.348
long jump	a=.188807	b=210cm	c=1.41
shot put	a=56.0211	b=1.5m	c=1.05
discus	a=12.3311	b=3m	c=1.10
hammer	a=17.5458	b=6m	c=1.05
javelin	a=15.9803	b=3.8m	c=1.04

MEN:

60 m	a=58.015	b=11.5s	c=1.81
100m	a=25.4347	b=18s	c=1.81
200m	a=5.8425	b=38s	c=1.81
300m	a=2.58503	b=60.1s	c=1.81
400m	a=1.53775	b=82s	c=1.81
1000m	a=.08713	b=305.5s	c=1.85
1500m	a=.03768	b=480s	c=1.85
60m hurdle	a=20.5173	b=15.5s	c=1.92
110m hurdle	a=5.74352	b=28.5s	c=1.92
high jump	a=.8465	b=75cm	c=1.42
pole vault	a=.2797	b=100cm	c=1.35
long jump	a=.14354	b=220cm	c=1.40
shot put	a=51.39	b=1.5m	c=1.05
discus	a=12.91	b=4m	c=1.10
hammer	a=13.0449	b=7m	c=1.05
javelin	a=10.14	b=7m	c=1.08

32 Cavendish
Ave, Sidcup,
Kent DA15 9EB

0181-302-9696

Dear Rob,
 May I draw your attention to two misprints, shown above. As the whole point of producing conversion tables is to calculate

the corrections are published. This might prevent future confusion. I have liaised with Ian Thomas (Fax) 0114 230 1381

of Sports Computer Services who agrees with my amended figures from which he has been calculating combined events results for 8 years. I sent for your tables following an advert in ~~Veterans Athletics~~ so an amendment to them & your suppliers would seem a sensible idea.

Ref my first 'phone conversation with you to remind you that the children's standards & conversion factors are ridiculously skewed. e.g. Compare boys & girls H.J. Standard age 12. Last year^(UK) 20+ girls (U13) reached^{*} 1.42m whereas no U13 boy got within 40cms of^{**} 2.07m.

^{*} Grade 1 U.13G national standard was 1.42m
^{**} " " U13B " " " 1.45m.

Yours in Sport. Pat Oates.

9Jun93

To: Jim Blair

From: Rex Harvey

Jim,

AL S.
COMMENTS?

First of all, thank you very much for looking at the proposed Age Grading update. Few have looked at it in the depth that you have. The WAVA Age Grading and Multi-Event sub-Committees probably should have been using you for input all along as I know that you are one of the more technically knowledgeable people in our sport but we didn't know how busy you were. I'm sending you some background so that you can better understand the 1993 proposal.

Let me say right off that I agree with you in your dismay that some World Records are only at the 90% performance level or so. Here is some earlier work on the subject that I did and, as you can see, I, like you, defend World Records as adamantly as anyone could- I wanted each WR to be at or near 100%. As you can see from Figure 19 of the September 1992 study, I, at first, tried to push every WR holder up to, or near, the 100% line by using a logical, consistent method of Factoring.

Please especially note my comments to Chuck Phillips on page 3 of the November 1992 study. Note again in Appendix N that I was trying to keep the World Records as high as possible in performance percentages.

As you can see, my own two early proposals were not used at all in the final proposed 1993 update. Looking back, they simply were too simple minded, and while they were mostly good, they had their weak points, the biggest being that the factors changed directions abruptly at various ages (between straight-line elements). That is simply not logical. That we get steadily worse in an increasing manner is logical, and that is what was used, event by event for 132 events to make the 1993 proposal. It was a very long haul and I'm sure that there are some mistakes, but on a whole the final proposal is much more fair to everyone than any of the individual methods proposed including the two that I had put forward.

Let me talk about a couple of the examples that you mentioned in your letter to Bill Taylor and Al Sheahan will talk about the other two. That way you will have at least two different viewpoints.

It became obvious very soon in our detailed study of events, that all WR's are not created equal and, if we stuck to our simple logical rules, that some WR's would simply not be nearly as good as others. That really is not a hard point to accept if you think about it and especially when you are aware of the greatly reduced (as compared to men) numbers of older men and all women that we see competing.

Please review again the basic rules that were followed. They are listed in "Basis" paragraph (page 2) of the actual 1993 proposal. If you disagree with these assumptions, then any of what has been done will not be acceptable to you. If you do agree, then follow on with this.

First of all the W60 Javelin WR should be 32.24 by Pakyte in Turku. It is only a technicality that is holding up the Turku WR's. But your point is still valid. Why is the Age Standard 41.99 when the WR is only 32.24? I have pulled some information out of the 1993 proposal and attached it to this letter with additional explanation. The chart contains all of the data used, but the graph is the place to really see what is happening. First, note that the 1989 Age Standards are now out of date because they have been exceeded at least 5 times in the ages 50 to 56. That is obvious, but you may wonder why the 93 curve was placed above even Schonauer's W54 record (which is, by far, the best performance in the 50 to 75 age groups). After studying

many events in excruciating detail a pattern emerges. That pattern is that it takes a person a few years to "learn" a new implement or hurdle height when they change. The Javelin change at W50 is especially significant because it is a full 50% reduction in weight. I know that it doesn't fly as well but that is a lesser effect. I suppose some people start practicing with the lighter implements before they change age groups, but most do not. Time and time again you will see people getting better and better in the first years of a new implement. This occurs even though we know that they are getting physically weaker as they age. If you will look at Schonauer's progression, you will see that particular phenomena occurring. At ages 51, 52, and 54 she threw 42, 44, and 45. Even if she doesn't improve this year, she will still come very close to the 1993 proposal line as you can see in the graph.

One of the instructions that we received was that the Age Grading Tables should not have to be updated every year or two, but should have a longer life. We could certainly create standards that would last for many years, but that is not fair to today's athletes. However, if the 93 curve had been placed so that it ran through the W54 WR then Schonauer probably would have gone well over 100% this year and the Tables would be out of date again. What this curve placement was, was a very educated guess at what we expect to happen very soon. Not what "should" happen, but what there is solid evidence pointing to.

You can see that the upper end of the curve could not be lowered very much at all without Gelbrich exceeding 100% at both 77 and 78 and, presumably, this and future years.

What you see from age 55 to 75 is a long series of "weak" records. I don't know especially why, but the evidence is obvious. Maybe the 400 gram Javelin doesn't "suit" the female body until about age 65 where the performances stay almost level all the way out to age 78. You may say, "Why not let the curve dip down and follow the obvious trend in order that those WR's in those age groups can receive higher performance percentages?" But that would violate our basic underlying rule that one gets increasingly worse as he gets older. The opposite statement is that he never stays the same or gets better at anything as he ages. This, of course, is in general and individuals can "break" this rule by any number of methods; more time spent, more work done, better technique, better health, better weather, better facilities and equipment, etc.

This is a subtle technical point but you can see from the chart column labeled "LOSS" that the 1993 proposal just barely meets our basic rule. Between age 50 and 51 the Age Standard decreases .866% as calculated by $100 * (49.90 - 49.47) / 49.90$. As our rule requires, you can see a smooth and continuous increase in this falloff all the way to age 100 and the drop-off increase becomes very small at the upper ages. I guess what I am trying to say is that the 1993 proposal curve could not come closer to the existing WR's in the 55-75 age groups because it already is falling off nearly as slowly as possible and still meet the rules.

So, in effect, two people, Schonauer, at the lower end of the curve, and Gelbrich, at the upper end of the curve are setting the pace for everyone else of all other ages of this gender and with this implement. They both excel more than once, so their throws do not seem to be flukes. Everyone else simply does not measure up, and especially the 60 year old's that you chose as an example. Should either or both of these women be thrown out of the analysis? Are they truly female, of the age that they say, not taking strength enhancing drugs, were the throws made with legal implements and were they measured correctly. We assumed yes and chose not to throw their performances out, but not without debating the point. Others, as you can see from the proposal were thrown out for various reasons. If you or anyone else has insights that should be brought out, please do so and we will make changes if everyone agrees that it would make better Age Grading.

So you can see that the 1993 update is truly based on actual performances in spite of the W60 Javelin performance percentage which, on the surface, appears to be too low.

Now I think you can start to get an appreciation of the magnitude of the work done by these Committees in this update and the 100's and 1000's of calls, FAX's and letters that went back

and forth in the interaction. Remember all this was done, and re-done, and re-done many times on 132 different events!

I am certainly glad that you are bringing up the apparent anomalies that you have. It's just that I don't think that the Women's Javelin is wrong and I hope you agree after the above explanation. I have re-looked at the Women's High Jump and either I can't find the proper notes, or can't remember the reasons, but it seems to be too tough on all Women from about age 40 up. A slight rework would seem in order. Thank you for pointing it out. In fact, the Committees have received some other informed feedback and the throwing events proposals have already been changed for the better. Here are those changes for your perusal.

You are absolutely correct in saying that Veteran athletes have not reached their maximum, just as Open athletes have not reached their maximum. Neither ever will, records will continue to be broken. But I think you will agree that they will be broken faster in those relatively "new" events (as most Veteran's competition is) as more and more people try their hand at the events and every once in a while a truly exceptional person shows up like a Payton Jordan, or Jack Greenwood, or Derek Turnbull. We have to walk the fine line of keeping the Age Standards at, or in front of the athletes without getting too far ahead of them. 1993 update is a good attempt at that. The alternative is to stay with the 1989 Age Grading which has many, many known weaknesses. It was our first try, and we know a lot more now and also have a lot more data.

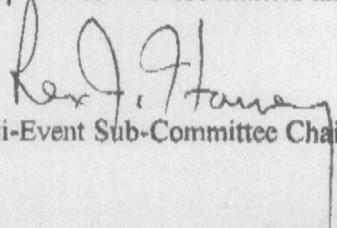
Let me say that we are not downgrading our Veteran athletes by putting some (or most) of their World Records at less than 100%. We are putting them on a logical continuum in the position that they deserve when compared to their peers, their juniors and their elders. Each age group cannot be isolated from the others without total chaos. In the running, each event cannot even be divorced from one another. There must be a logical progression as the distance increases as well as the age. Some records (many), if taken alone, would not make any sense when compared with their neighbors and the system would be belittled and soon discarded as wrong. The whole Veteran's program would lose credibility. Our strength is our respect. Giving "weak" records the same weight as "outstanding" records would lose us respect.

In the system that you are recommending, are you proposing to use the specialist World records for 1200 points or the Multi-event World Records (which we do not yet keep). Remember, a 350 pound shot putter may do pretty well as a specialist, but would fail miserably as a Multi-Eventer when it came time to Pole Vault and run the 1500 meters.

I, or any other of the Sub-Committee members would be most glad to discuss yours or any other concept with you face to face, call to call, FAX to FAX, and letter to letter as we all have done too many times to be counted. I'm sorry that you have not stepped forward sooner to be recognized as one interested in participating in the work of these particular Sub-Committees. There are many positions just begging for someone who has a few hundred spare hours to fill them so just let your desires be known to the proper people.

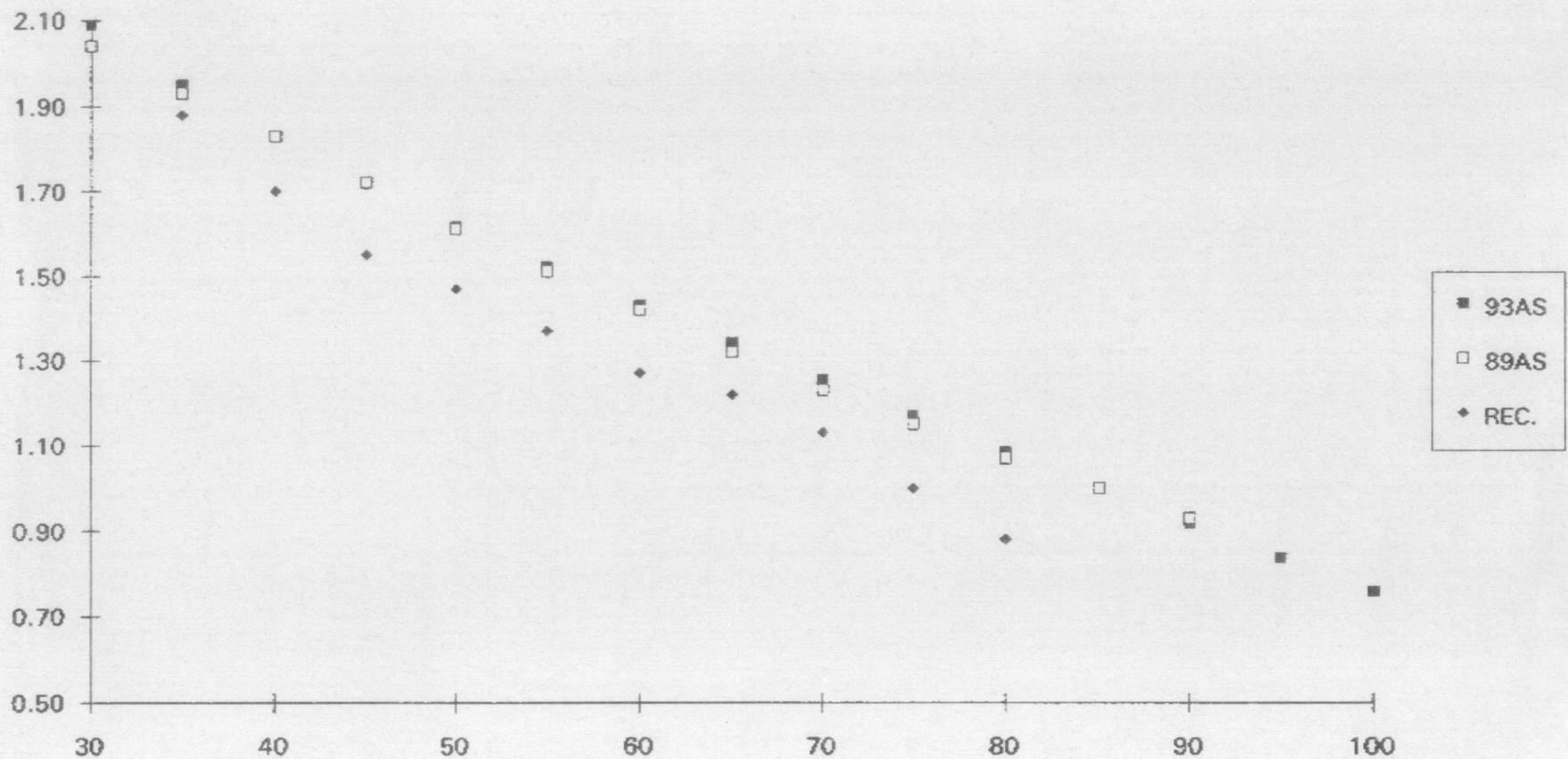
I'm truly sorry that you are in so much haste and confusion. I'm afraid that our Committees took the extra time up trying to do the best possible job, and left very little time to the Council Members. Remember, this is very technical work and you and only a very few others would understand it's intricacies. I hope the above has been enlightening to you. Don't hesitate to contact me or anyone else on the Committees. My new home address is 160 Chatham Way, Mayfield Heights, Ohio, 44124 USA. My business address is Parker-Hannifin Corporation, 17325 Euclid Avenue, Cleveland, Ohio 44112. My home phone is 216 446 0559. My business phone is 216 531 3000 and my best FAX is 216 531 0038. I have a deep interest in these matters and will do anything I can to forward our sport.

Rex Harvey


WAVA Multi-Event Sub-Committee Chair

HJ	93AS	89AS	REC.	LOSS	93 %		OC	AF	D1	D2	D3
30	2.09	2.04			0.0		2.09	1.0000	0.0711	0.0008	0.0008
35	1.95	1.93	1.88	6.290	96.3	BRILL	2.09	1.0711	0.0719	0.0016	0.0012
40	1.83	1.83	1.7	6.042	93.0		2.09	1.1430	0.0735	0.0028	0.0016
45	1.72	1.72	1.55	5.902	90.2		2.09	1.2165	0.0763	0.0044	0.0020
50	1.62	1.61	1.47	5.876	90.9	TYLER	2.09	1.2928	0.0807	0.0064	0.0024
55	1.52	1.51	1.37	5.963	90.0		2.09	1.3735	0.0871	0.0088	0.0028
60	1.43	1.42	1.27	6.161	88.8		2.09	1.4606	0.0959	0.0116	0.0032
65	1.34	1.32	1.22	6.460	90.9	DAVIDSON	2.09	1.5565	0.1075	0.0148	0.0036
70	1.26	1.23	1.13	6.847	90.0	BOWERMASTER	2.09	1.6640	0.1223	0.0184	0.0040
75	1.17	1.15	1	7.302	85.5		2.09	1.7863	0.1407	0.0224	0.0044
80	1.08	1.07	0.88	7.803	81.1		2.09	1.9270	0.1631	0.0268	0.0048
85	1.00	1		8.329	0.0		2.09	2.0901	0.1899	0.0316	0.0052
90	0.92	0.93		8.855	0.0		2.09	2.2800	0.2215	0.0368	
95	0.84			9.359	0.0		2.09	2.5015	0.2583		
100	0.76				0.0		2.09	2.7598			

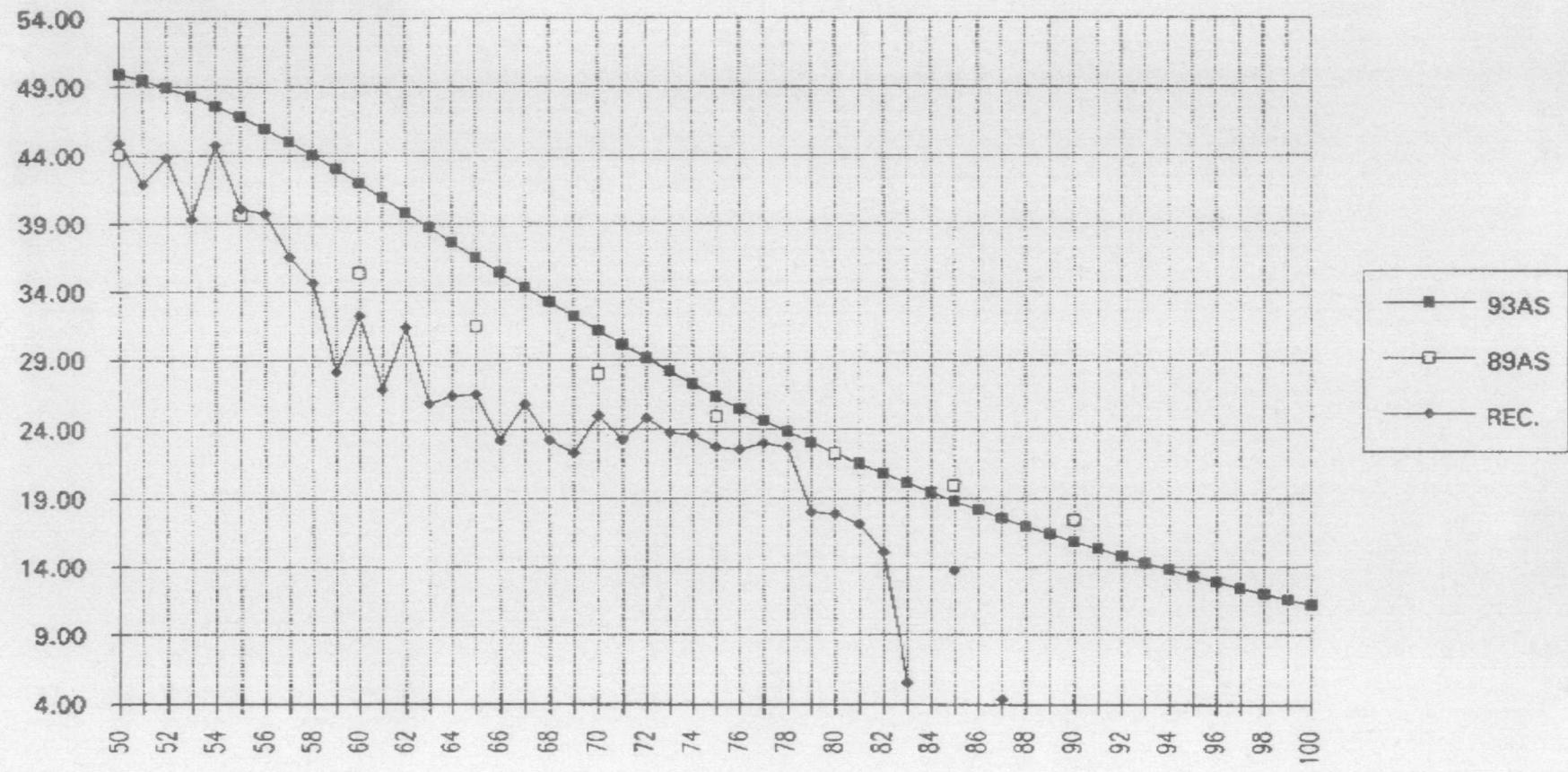
WOMEN'S HIGH JUMP



WTAF.XLS

JT	93AS	AF D1	AF D2	89AS	REC.	LOSS	93 %	NAME	OC	AF
50	49.90	0.0140	0.0036	44.08	44.90	0.866	90.0	OZOLONA	80.00	1.6032
51	49.47	0.0176	0.0036		41.86	1.077	84.6	SCHONAUER	80.00	1.6172
52	48.94	0.0212	0.0036		43.82	1.280	89.5	SCHONAUER	80.00	1.6348
53	48.31	0.0248	0.0036		39.32	1.475	81.4		80.00	1.6560
54	47.60	0.0284	0.0036		44.76	1.662	94.0	SCHONAUER	80.00	1.6808
55	46.81	0.0320	0.0036	39.59	40.10	1.838	85.7		80.00	1.7092
56	46.95	0.0356	0.0036		39.72	2.004	86.5		80.00	1.7412
57	45.02	0.0392	0.0036		36.54	2.159	81.2		80.00	1.7768
58	44.05	0.0428	0.0036		34.64	2.303	78.6		80.00	1.8160
59	43.04	0.0464	0.0036		28.14	2.435	65.4		80.00	1.8588
60	41.99	0.0500	0.0036	35.36	32.24	2.557	76.8	PAKYTE	80.00	1.9052
61	40.92	0.0536	0.0036		26.86	2.668	65.6		80.00	1.9552
62	39.82	0.0572	0.0036		31.40	2.769	78.8		80.00	2.0088
63	38.72	0.0608	0.0036		25.88	2.859	66.8		80.00	2.0660
64	37.62	0.0644	0.0036		26.40	2.939	70.2		80.00	2.1268
65	36.51	0.0680	0.0036	31.49	26.54	3.010	72.7		80.00	2.1912
66	35.41	0.0716	0.0036		23.16	3.072	65.4		80.00	2.2592
67	34.32	0.0752	0.0036		25.80	3.126	75.2		80.00	2.3308
68	33.25	0.0788	0.0036		23.22	3.171	69.8		80.00	2.4060
69	32.20	0.0824	0.0036		22.30	3.210	69.3		80.00	2.4848
70	31.16	0.0860	0.0036	28.02	24.97	3.241	80.1		80.00	2.5672
71	30.15	0.0896	0.0036		23.24	3.267	77.1		80.00	2.6532
72	29.17	0.0932	0.0036		24.82	3.286	85.1		80.00	2.7428
73	28.21	0.0968	0.0036		23.77	3.301	84.3		80.00	2.8360
74	27.28	0.1004	0.0036		23.58	3.310	86.4		80.00	2.9328
75	26.37	0.1040	0.0036	24.95	22.70	3.315	86.1		80.00	3.0332
76	25.50	0.1076	0.0037		22.54	3.316	88.4		80.00	3.1372
77	24.65	0.1113	0.0039		23.02	3.316	93.4	GELBRICH	80.00	3.2448
78	23.84	0.1152	0.0041		22.70	3.319	95.2	GELBRICH	80.00	3.3561
79	23.05	0.1193	0.0043		18.00	3.323	78.1		80.00	3.4713
80	22.28	0.1236	0.0045	22.26	17.86	3.328	80.2		80.00	3.5906
81	21.54	0.1281	0.0047		17.12	3.334	79.5		80.00	3.7142
82	20.82	0.1328	0.0049		15.06	3.341	72.3		80.00	3.8423
83	20.13	0.1377	0.0051		5.58	3.348	27.7		80.00	3.9751
84	19.45	0.1428	0.0053			3.356	0.0		80.00	4.1128
85	18.80	0.1481	0.0055	19.92	13.74	3.363	73.1		80.00	4.2556
86	18.17	0.1536	0.0057			3.370	0.0		80.00	4.4037
87	17.55	0.1593	0.0059		4.40	3.377	25.1		80.00	4.5573
88	16.96	0.1652	0.0061			3.384	0.0		80.00	4.7166
89	16.39	0.1713	0.0063			3.390	0.0		80.00	4.8818
90	15.83	0.1776	0.0065	17.40		3.395	0.0		80.00	5.0531
91	15.29	0.1841	0.0067			3.400	0.0		80.00	5.2307
92	14.77	0.1908	0.0069			3.404	0.0		80.00	5.4148
93	14.27	0.1977	0.0071			3.407	0.0		80.00	5.6056
94	13.79	0.2048	0.0073			3.409	0.0		80.00	5.8033
95	13.32	0.2121	0.0075			3.410	0.0		80.00	6.0081
96	12.86	0.2196	0.0078			3.410	0.0		80.00	6.2202
97	12.42	0.2274	0.0081			3.411	0.0		80.00	6.4398

WOMEN'S JAVELIN THROW



100M	93AS	89AS	REC.	LOSS	93%	NAME	OC	AF	DELTA1	DELTA2	DELTA3
20	10.13						10.76	1.0623	-0.02940	-0.0001	0.0000
25	10.42			2.846			10.76	1.0329	-0.02950	-0.0001	-0.0001
30	10.72			2.940	####		10.76	1.0034	-0.02960	-0.0002	-0.0002
35	11.05			3.040	####		10.76	0.9738	-0.02980	-0.0004	-0.0003
40	11.40			3.157	####		10.76	0.9440	-0.03020	-0.0007	-0.0004
45	11.78			3.305	####		10.76	0.9138	-0.03090	-0.0011	-0.0005
50	12.19		13.14	3.500	92.7	OBERA	10.76	0.8829	-0.03200	-0.0016	-0.0006
55	12.65			3.761	####		10.76	0.8509	-0.03360	-0.0022	-0.0007
60	13.17			4.111	####		10.76	0.8173	-0.03580	-0.0029	-0.0008
65	13.77			4.581	####		10.76	0.7815	-0.03870	-0.0037	-0.0009
70	14.49			5.210	####		10.76	0.7428	-0.04240	-0.0046	-0.0010
75	15.36		16.87	6.054	91.1	CLARK	10.76	0.7004	-0.04700	-0.0056	-0.0011
80	16.47			7.193	####		10.76	0.6534	-0.05260	-0.0067	-0.0012
85	17.91			8.755	####		10.76	0.6008	-0.05930	-0.0079	-0.0013
90	19.87			10.951	####		10.76	0.5415	-0.06720	-0.0092	
95	22.69			14.168			10.76	0.4743	-0.07640		
100	27.04			19.201			10.76	0.3979			

200M	93AS	89AS	REC.	LOSS	93%	NAME	OC	AF	DELTA1	DELTA2	DELTA3
30	21.57			3.273	####		21.64	1.0034	-0.03180	-0.0002	-0.0002
35	22.27			3.406	####		21.64	0.9716	-0.03200	-0.0004	-0.0003
40	23.03		24.84	3.571	92.7	RASCHKER	21.64	0.9396	-0.03240	-0.0007	-0.0004
45	23.85		26.24	3.787	90.9	HINES	21.64	0.9072	-0.03310	-0.0011	-0.0005
50	24.76		27.54	4.072	89.9	OBERA	21.64	0.8741	-0.03420	-0.0016	-0.0006
55	25.76		28.48	4.452	90.5	OBERA	21.64	0.8399	-0.03580	-0.0022	-0.0007
60	26.91			4.960	####		21.64	0.8041	-0.03800	-0.0029	-0.0008
65	28.25			5.640	####		21.64	0.7661	-0.04090	-0.0037	-0.0009
70	29.84			6.553	####		21.64	0.7252	-0.04460	-0.0046	-0.0010
75	31.80		35.93	7.792	88.5	CLARK	21.64	0.6806	-0.04920	-0.0056	-0.0011
80	34.27			9.504	####		21.64	0.6314	-0.05480	-0.0067	-0.0012
85	37.53			11.939	####		21.64	0.5766	-0.06150	-0.0079	-0.0013
90	42.01			15.571	####		21.64	0.5151	-0.06940	-0.0092	
95	48.55			21.411	####		21.64	0.4457	-0.07860		
100	58.95			#####			21.64	0.3671			



NATIONAL MASTERS NEWS



The official world and U.S. publication for Masters track & field, long distance running and race walking.

June 9, 1993 5:20 p.m. PDT.

To: Rex Harvey

Rex:

Following is a 2-page letter I plan to fax to Jim tomorrow (Thurs).

Please tell me if you think it's okay, and if you have any suggestions.

Thanks,

JE

P.S. Because I just remembered it is already June 10th (the deadline) in New Zealand, I went ahead and faxed it to him today. Hope you approve.

AL,
 VERY GOOD RUNNING EXPLAIN.

PLEASE FAX BACK YOUR COMMENTS ON
 MY BLMR LTR. & I WILL FAX TO
 HIM TOMORROW MORNING & AIR EXPRESS HIM
 THE LAST 3 LARGE PAPERS THAT I HAVE
 PUT OUT.

WHAT IS THE FAX YOU
 SENT TO AND WHAT IS HIS
 COMPLETE ADDRESS & TELE?
 THANKS, REX



NATIONAL MASTERS NEWS



The official world and U.S. publication for Masters track & field, long distance running and race walking.

June 10, 1993

Dear Jim:

Bill sent me a copy of your fax expressing some concerns with the proposed new WAVA age-graded tables.

Rex told me he would write you re the method of calculating the field-event tables, including some minor revisions suggested by yourself, Rodney Charnock, and others.

I have a few comments on the running events, to wit:

- 1) Both Rex's and my committees decided to calculate the men's standards first, using pretty reliable data compiled over the past 25 years of actual performances. As you can see on the report (page 6), there are exactly 50 men's performances (29 running, 19 field-event, and 4 racewalking) that received a performance level of 99%-100%. Moreover, virtually all open men's world records are ranked at 100%. Thus, we used actual data, not some pre-conceived projections, to establish the men's standards.
- 2) Naturally, some men's WRs fall below the 99% level, because they are soft records. We judge them so because they fall below the curve we established, which was based on the 100% performances. To use the exact records for every age group and every event would naturally distort the whole tables; we had to use a smooth, logical curve, based on the premise that an athlete's performance would always be lesser with advancing age.
- 3) After we arrived at satisfactory men's standards, we mathematically calculated the men's factors (the open standard divided by the age-group standard = the age-group factor).
- 4) We then had a month-long debate as to whether to assign the women's running events the same factors as the men's, or to give the women a "break," and ease their factors, as we had done in 1989.

One school, headed by Mike Tymn, and Pete Mundle, ^{Norm Green, Bev LeVeck,} felt there is no evidence anywhere to indicate that women age faster than men, and so the women should receive the same factors as the men. The second school felt that would make the women's percentages (and multi-event scores) too low in comparison to the men; and they recommended giving the women about a 10% to 15% advantage. They could cite no empirical or medical evidence to support this, since some women HAVE achieved outstanding performances (Priscilla Welch, Evy Palm, Maricica Puica, Britta Tibbling, etc.) But they argued that most veteran women athletes did not compete in their youth, and it would take another 20 years for the women to truly reach their potential in the upper age groups. As a practical matter, they



favored giving the women a 10-15% advantage for reasons of fairness, practicality and good public relations.

The second view eventually prevailed. Tymn is still unconvinced and feels the women's factors are too easy, but the rest of us were persuaded by the second school's arguments. Thus, as you'll note, the factors for the women are about "10%-15%" easier than the men's.

(Mathematically, we took the men's factor of, e.g., .8550, and subtracted from 1.0000 to get .1450. We multiplied 1450 by 10% to get 1595, then deducted that from 10000 to get the women's factor of .8405. We then massaged that figure into our uniform formula to arrive at the women's factors for each event. You can check any comparable running or walking event at any age and find this calculation generally applying.)

- 5) Then, to get the women's standards, we established women's open standards and simply divided it by each age-group factor to get the standard for each age group.
- 6) We established the women's open standards generally based on the current women's WR, but specifically based on a formula of 11% more than the men's WR. That seemed logical and followed established wisdom. It also made almost all the current women's WRs about 99% or 100%, and kept the curve smooth.
- 7) As noted in the report, we arbitrarily threw out FloJos 100 and 200WRs, which were only 6% above the men's 100/200 WRs, and would have made the women's standards impossible to meet. However, even so, the women's 100 and 200 OC standards are less than the above-mentioned 11% more than the men's OC standard. Presumably, the women are able to perform better in the sprints in relation to the men than they are in the 1500, 5K, etc. At least, that's what we determined from the current data.
- 8) The W60 100 and 200 standards, which you cite as being too tough, are based on all of the above. Mainly, they're "tough" because the 60-year-old men have run very fast times. The current women's W60 WR of 13.9 is 17.8% above the men's M60 WR of 11.8. Clearly, this 13.9 is a soft record and logically will be broken soon. The committees felt it was imperative to not be fooled by these soft records, and to establish a uniform, consistent, smooth curve for both men and women, using the 50 aforementioned 99%-100% men's performances as our basic focal points.

I hope this is useful information and will enable you to support the proposed ~~report~~ tables as far as the running events go. Please fax me if you have any questions or comments.

Best regards,



Al Sheahen

cc: Harvey, Taylor