

# **A Study of “Q” in the PHRF-LO Time on Time Conversion**

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## BACKGROUND AND HISTORY

### Time on Time Scoring

PHRF-LO handicaps allow the use of two methods of scoring, time on distance (TOD) and time on time (TOT). In recent years however time on time has become the preferred method due to the inherent simplicity of scoring and the fact that it provides a “first order” correction of race speed. All handicap analysis at PHRF-LO is presently completed using TOT. The PHRF-LO conversion formula from TOD to TOT incorporates a conversion variable “Q” that provides the ability to adjust or scale the relative handicap multipliers. This scaling can best be described as an accordion effect on the time on time multipliers. The relative position of the boat handicap never changes but the amount of handicap between boats adjusts with new “Q” values. The formula for the conversion is as follows:

$$TOT = \frac{\sqrt{R} + (Q \times \sqrt{R \times R_s})}{\sqrt{R_s} + (Q \times \sqrt{R \times R_s})}$$

TOT = Time on Time Multiplier    -    TOD = Time on Distance Number

$$R = \frac{8360000}{(TOD + 378.3)^2} \quad R_s = \frac{8360000}{(TOD + 378.3)^2}$$

The constants 8360000 and 378.3 and the formulas for R and Rs are used to convert the TOD (sec/mile) handicap of the boat in question (R) and the “scratch boat” (Rs) to a “rated length” which is a customary term used in measurement handicap systems and directly related to the potential hull speed. Rs actually has no effect on the relative rating but scales the final corrected time to be near the actual finish times.

The use of this formula and Q scaling variable is nothing new and is more completely described in “The H. Irving Pratt Ocean Race Handicap Project” compilation of reports completed at the Massachusetts Institute of Technology in the early 70’s. The use of these scaling factors called “Q” in the TOT scoring system and “P” in the TOD scoring system are inherent in the handicap process. The optimum “Q” or “P” are unique for each race due to all the factors that may affect the race including sea conditions, wind velocity, race course type, and unique boat performance. The single Q that we use must be a compromise that best fits the particular racing circumstances in our area.

### PHRF-LO History

At the inception of PHRF-LO the “Q” variable was set at 0.045 which resulted in a unique set of multipliers one for each individual handicap. The goal was to produce corrected race results that were similar to the results obtained with the then popular “Lake Ontario Rule” (LOR). Acceptance of PHRF on Lake Ontario was the goal at that time not optimization of Q.

That value of “Q” (0.045) has remained unchanged and unchallenged (or really forgotten) since that time. It’s important to point out that allowing “Q” to equal zero results in a multiplier that is a direct ratio of the square root of the rated lengths (or hull speeds). Increasing the value of “Q” above zero has the effect of favoring faster rated boats and lowering Q below zero favors slower boats.

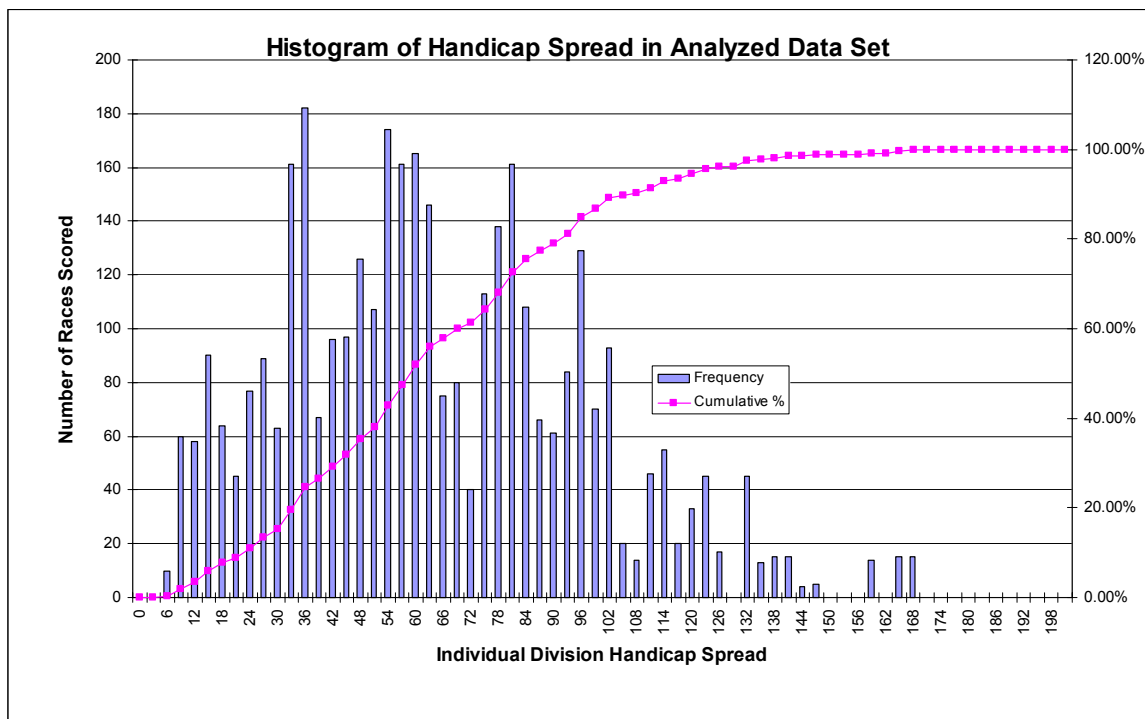
*The question therefore remains: Is there a “Q” value other than 0.045 that better represents current sailing on Lake Ontario and provides better handicapping fairness within divisions?*

## An Obvious Question

Before we go any further, one obvious question may come up: *If we have been adjusting individual handicaps for the last 20 years why hasn't any potential "Q" bias been corrected out?* The answer is that the effect of "Q" is confounded in the individual performances and varying division splits. Any analysis and subsequent handicap adjustment affects that boat class only and has no ability to correct or adjust any "Q" effect to the entire fleet since a boat of any class may be the fastest rated boat in a division at one club but the slowest rated in a division in another.

## Handicap Spread within Scoring Divisions

If rating spreads within divisions were kept small there would be little need to worry about optimizing the "Q" factor since any Q induced errors would be low. However due to the great range of boat sizes within clubs, and the limited number of boats racing, many clubs are forced to place boats of widely different speed potentials into the same division. This large difference in handicaps within a division makes the optimization of TOD to TOT conversion critical. The following chart (Fig.#1) is a histogram of handicap spread within a division for the data set used in this study and should represent the typical racing on Lake Ontario. Surprisingly the average handicap spread within a division is nearly 60 sec/mile and 20% of divisions have over a 90 sec/mile spread.



Fig# 1

## ANALYSIS METHOD

The analysis method used in this study follows a general technique described in the H. Irving Pratt Ocean Race Handicap Study (Hazen, Newman, et.al.) and involves iteratively adjusting the Q for each race until no bias is present (optimum "Q"). The analysis is done by adjusting the value of Q incrementally in sequential approximation for each race, recalculating the resulting multipliers, re-correcting the race results and finally finding the slope of the line that best fits the handicap vs. corrected time of that race. This is repeated until the slope is zero (optimum Q) which means there is

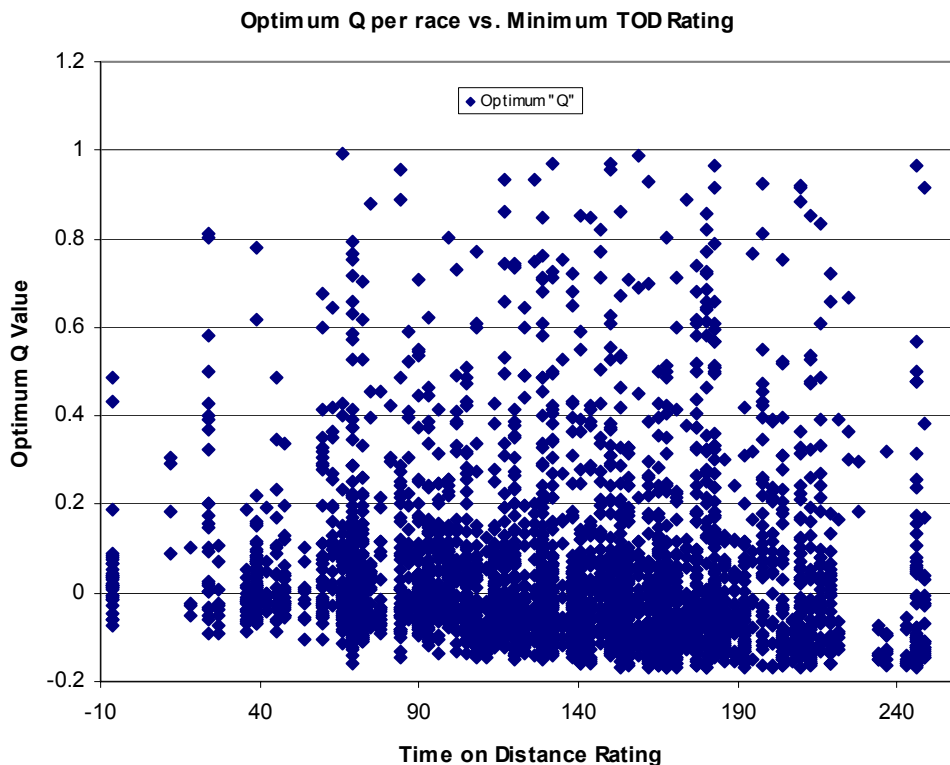
no correlation of handicap to corrected time based on the least squares linear regression. Once all the optimum Q's are calculated for each race in the data set the resulting data can be statistically analyzed and displayed. Fortunately in this age of digital computing these multiple calculations can be completed in a reasonable time even with thousands of individual races being analyzed.

Not all races can be converged to "zero slope" successfully. The reason of failure appears to be multiple individual boats displaying very unusual sailing performance not indicative of their handicap. The adjustment of Q causes the performance of two or more boats to diverge preventing optimization. This is an individual boat handicap or race problem which makes that race data unusable for analysis purposes. It can also be caused by boats with small handicap differences but large differences in finish times which would require extreme and obviously unrealistic Q values.

No attempt was made to isolate any individual boat or class. Individual boat or class information was actually stripped from the data at the start of the analysis since it is of no importance to the results. It's only handicap vs. corrected time for each boat, in each race division, that's significant in this study. As in all real race data there is a great deal of variability caused by extraneous factors and it's important to have sufficient data to average out the variability. The data set resulted in 3592 individual race/divisions that could be successfully converged and were used for further calculation. Appendix A is a list of the race series used in this analysis. Each series can contain multiple races.

## RESULTS

The resulting optimum "Q's" are plotted against the minimum handicap for each race and shown in the scatter plot (Fig. #2) below:



**Fig. #2**

The scatter plot clearly shows the data outliers above the main data concentration between -0.2 and 0.2. When plotted as a histogram, as shown below, the data is non-Gaussian with a considerable tail

towards the high Q's indicating that the faster rated boats, for whatever reason, did not fair well in some races and required a considerable Q adjustment (to their advantage) for the results to converge.

The following histograms and tables represent the data contained in the scatter plot above.

### All Data

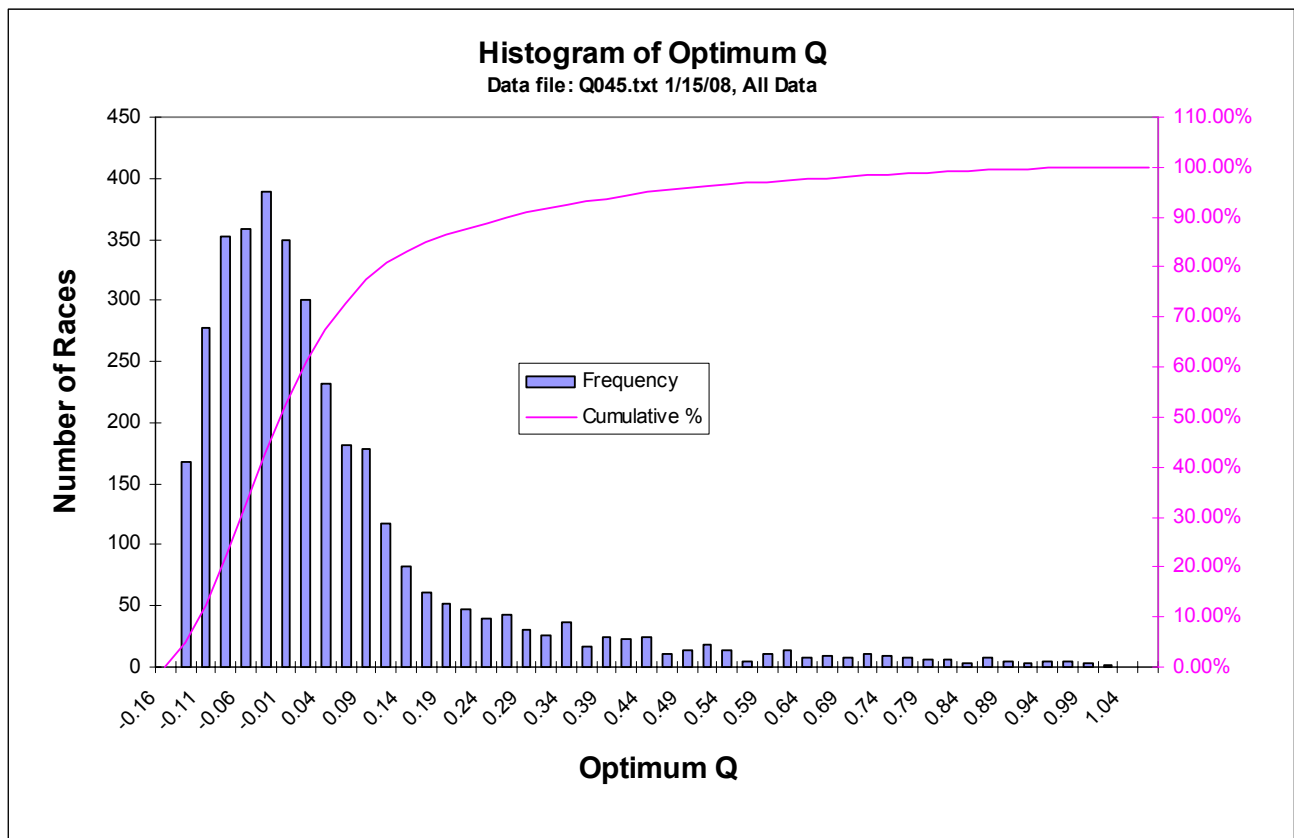


Fig. #3

Analysis of the data is shown on the chart below. As can be expected the skewed distribution results in a considerable difference in the median and average values of the optimum Q's. It is doubtful that the higher predicted Q values (greater than 0.2 or 0.3) represent viable values. It does point out the extreme variability of sailboat racing and the difficulty of predicting performance from individual races. In this case the **median** value represents a better indicator of the optimum Q than the numerical average (half the time the slower boats will be advantaged and half the time the faster).

	Initial Data	Number of	Final Best	Final	Minimum	Maximum	Rating	Average
	Slope @	Iterations	Q	Slope	t/d rating	t/d rating	Spread	t/d rating
	Q=0.045	Required					within	
							Race	
min	-0.003648	0	-0.1548	-0.000001	-6	66	6	47
max	0.034217	30	0.9919	0.000001	249	336	168	285
average	0.001207	14	0.0377	0.000000	132	197	65	166
median	0.000611	13	<b>-0.0180</b>	0.000000	132	201	60	167
std.dev.	0.002400	4	0.1870	0.000001	51.78	50.66	32.50	46.08
# Races	3592	3592	3592	3592	3592	3592	3592	3592

Table #1

## Q Linearity

A question arises as to whether the optimum Q is constant over the handicap rating change. To explore this possibility the data was separated by the minimum PHRF TOD rating in the race. Race data containing a boat of less than TOD 100 was analyzed separately from those races which the minimum handicap was greater than 100 and the resulting data tallied. The following graphs and charts explore this separation.

### Minimum TOD rating less than 100

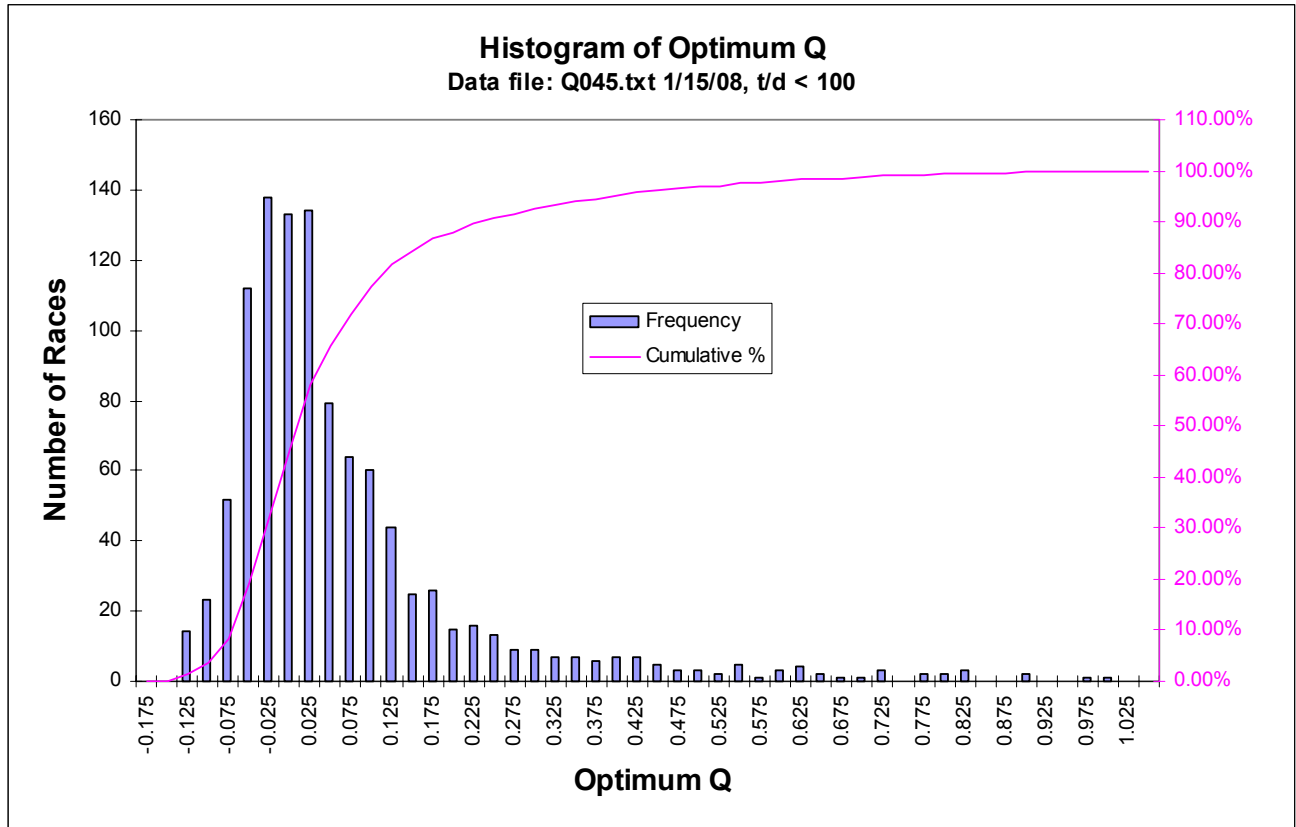


Fig. #4

	Initial Data	Number of	Final	Final	Minimum	Maximum	Rating	Average
	Slope @	Iterations	Best Q	Slope	t/d rating	t/d rating	Spread	t/d rating
	Q=0.045	Required					within	
							Race	
min	-10.720800	0	-0.1445	-0.000001	-6	66	6	47
max	123.181200	30	0.9919	0.000001	99	258	168	198
average	2.924681	13	0.0554	0.000000	69	153	84	117
median	1.332000	13	<b>0.0080</b>	0.000000	72	147	81	118
std.dev.	9.102235	4	0.1608	0.000001	25.06	43.87	32.82	32.42

Table #2

Optimum Q as represented by the median is higher than that predicted by the analysis of the entire data set meaning less handicap adjustment need be given to the slower rated boats in those races. This difference is also evident in the data of scatter plot figure #2.

### Minimum TOD rating greater than 100

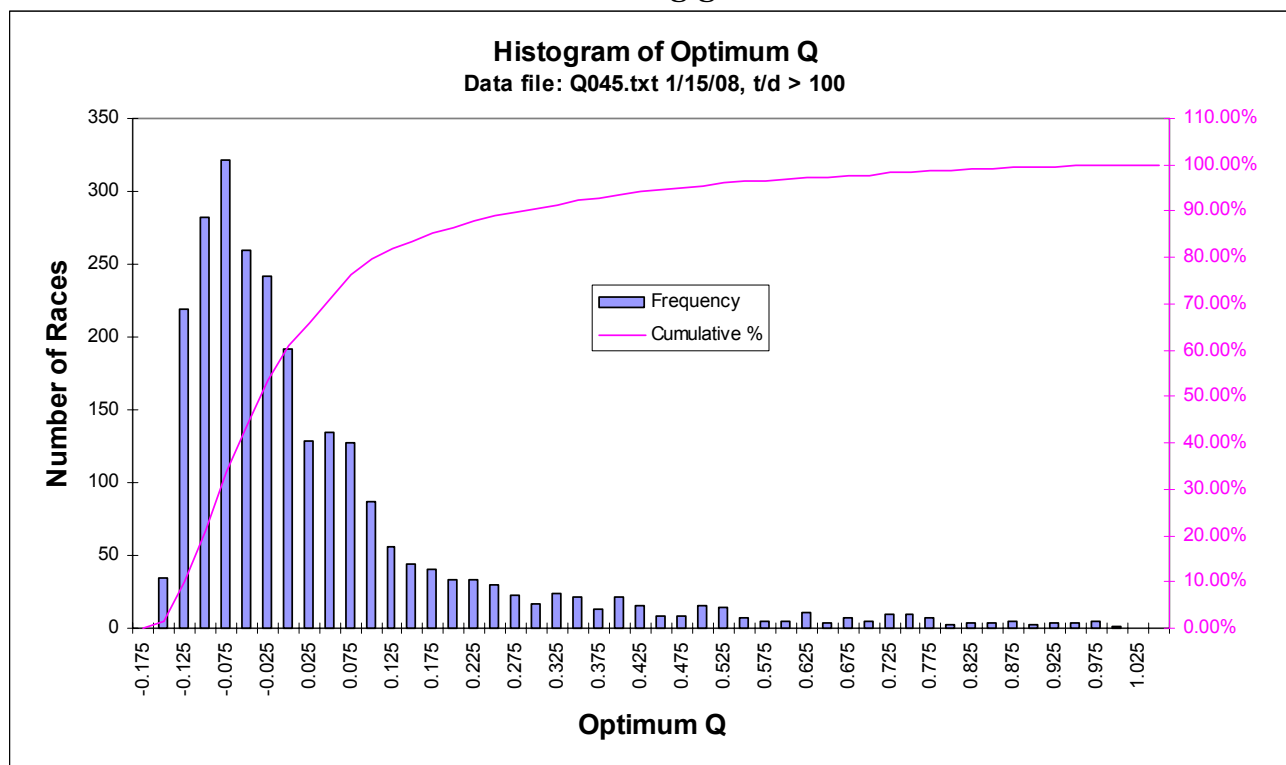


Fig. #6

	Initial Slope @ Q=0.045	Number of Iterations Required	Final Best Q	Final Slope	Minimum t/d rating	Maximum t/d rating	Rating Spread within Race	Average t/d rating
<b>min</b>	-13.132800	0	-0.1548	-0.000001	102	120	6	114
<b>max</b>	61.336800	30	0.9888	0.000001	249	336	141	285
<b>average</b>	4.929780	14	0.0305	0.000000	158	215	57	186
<b>median</b>	2.754000	14	<b>-0.0335</b>	0.000000	153	219	54	183
<b>std.dev.</b>	8.374820	4	0.1963	0.000001	35.36	41.61	28.93	34.17
<b># Races</b>		2547	2547	2547	2547	2547	2547	2547

Table #3

The optimum Q value is lower than the average for boats with TOD > 100 sec/mile. It appears that the optimum Q is not constant over the entire range. ***In all cases however the predicted optimum Q is less than the value currently used (.045) indicating that there is an inherent bias towards faster boats across all handicap ranges.***

To better visualize the effect of the predicted handicap we can construct a table of TOD to TOT conversions with different “Q” values and explore the difference over the handicap arena using the median “Q” of **.008** (as suggested from the data set containing TOD < 100 sec/mile). As shown, over the very large handicap range of -21 sec/mile to 297 sec/mile, changing “Q” from .045 to .008 results in the spreading of handicaps by 59 sec/mile. A 30 sec/mile rating difference will result in an approximate 6 sec/mile additional handicap to the slower rated boat.

**Q set to 0.008 (Median for TOD < 100)**

T/D#	ORIGINAL T/T Multiplier Q =	NEW T/T Multiplier Q =	% Change	EQUIV. NEW TOD	Change from Original	T/D#	ORIGINAL T/T Multiplier Q =	NEW T/T Multiplier Q =	% Change	EQUIV. NEW TOD	Change from Original
	<b>0.045</b>	<b>0.008</b>					<b>0.045</b>	<b>0.008</b>			
-21	1.4062	1.5205	8.12%	-58	-37	141	1.0554	1.0664	1.04%	134	-7
-15	1.3891	1.4969	7.76%	-51	-36	147	1.0458	1.0547	0.85%	141	-6
-9	1.3724	1.4740	7.40%	-43	-34	153	1.0363	1.0433	0.68%	149	-4
-3	1.3561	1.4518	7.05%	-36	-33	159	1.0270	1.0321	0.50%	156	-3
3	1.3402	1.4302	6.72%	-29	-32	165	1.0178	1.0212	0.33%	163	-2
9	1.3247	1.4093	6.39%	-22	-31	171	1.0088	1.0105	0.16%	170	-1
15	1.3095	1.3890	6.07%	-15	-30	177	1.0000	1.0000	0.00%	177	0
21	1.2947	1.3693	5.76%	-8	-29	183	0.9913	0.9897	-0.16%	184	1
27	1.2802	1.3501	5.46%	-1	-28	189	0.9828	0.9797	-0.32%	191	2
33	1.2660	1.3315	5.17%	6	-27	195	0.9744	0.9698	-0.47%	198	3
39	1.2521	1.3133	4.89%	13	-26	201	0.9662	0.9602	-0.62%	205	4
45	1.2385	1.2957	4.62%	21	-24	207	0.9581	0.9507	-0.77%	213	6
51	1.2252	1.2785	4.35%	28	-23	213	0.9501	0.9414	-0.91%	220	7
57	1.2122	1.2618	4.09%	35	-22	219	0.9423	0.9323	-1.06%	227	8
63	1.1995	1.2455	3.83%	42	-21	225	0.9346	0.9234	-1.20%	234	9
69	1.1870	1.2296	3.58%	49	-20	231	0.9270	0.9146	-1.33%	241	10
75	1.1748	1.2141	3.34%	56	-19	237	0.9195	0.9060	-1.47%	248	11
81	1.1629	1.1990	3.11%	63	-18	243	0.9122	0.8976	-1.60%	255	12
87	1.1512	1.1843	2.88%	70	-17	249	0.9049	0.8893	-1.73%	262	13
93	1.1397	1.1699	2.65%	77	-16	255	0.8978	0.8812	-1.85%	269	14
99	1.1284	1.1559	2.43%	85	-14	261	0.8908	0.8732	-1.98%	277	16
105	1.1174	1.1422	2.22%	92	-13	267	0.8839	0.8654	-2.10%	284	17
111	1.1066	1.1288	2.01%	99	-12	273	0.8771	0.8577	-2.22%	291	18
117	1.0959	1.1157	1.81%	106	-11	279	0.8738	0.8539	-2.28%	294	18
123	1.0855	1.1030	1.61%	113	-10	285	0.8672	0.8464	-2.40%	301	19
129	1.0753	1.0905	1.41%	120	-9	291	0.8606	0.8390	-2.51%	309	21
135	1.0653	1.0783	1.22%	127	-8	297	0.8542	0.8318	-2.63%	316	22

Table #4

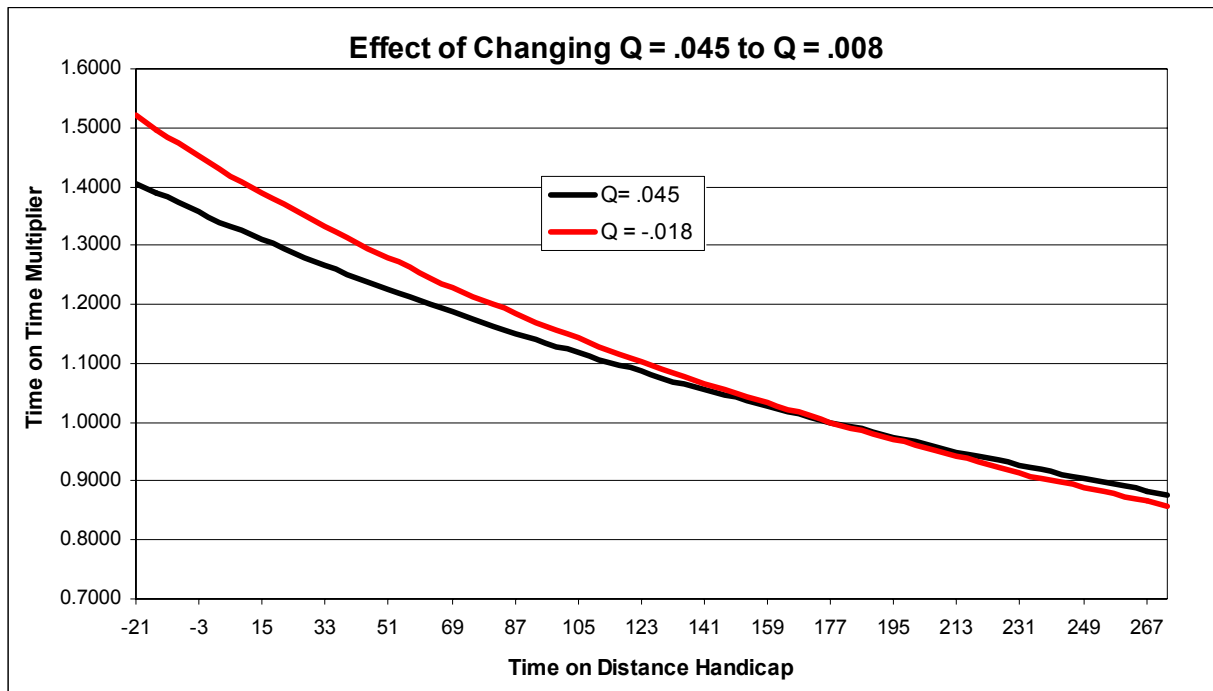


Fig. #7



**Q set to -0.018 (Median for All Data)**

T/D#	ORIGINAL T/T Multiplier Q =	NEW T/T Multiplier Q =	% Change	EQUIV. NEW TOD	Change from Original	T/D#	ORIGINAL T/T Multiplier Q =	NEW T/T Multiplier Q =	% Change	EQUIV. NEW TOD	Change from Original
	<b>0.045</b>	<b>-0.018</b>					<b>0.045</b>	<b>-0.018</b>			
-21	1.4062	1.6486	17.24%	-93	-72	141	1.0554	1.0770	2.05%	128	-13
-15	1.3891	1.6169	16.39%	-84	-69	147	1.0458	1.0634	1.68%	136	-11
-9	1.3724	1.5863	15.58%	-76	-67	153	1.0363	1.0501	1.33%	144	-9
-3	1.3561	1.5568	14.80%	-68	-65	159	1.0270	1.0371	0.99%	152	-7
3	1.3402	1.5285	14.04%	-60	-63	165	1.0178	1.0244	0.65%	161	-4
9	1.3247	1.5011	13.32%	-52	-61	171	1.0088	1.0121	0.32%	169	-2
15	1.3095	1.4747	12.62%	-44	-59	177	1.0000	1.0000	0.00%	177	0
21	1.2947	1.4492	11.94%	-35	-56	183	0.9913	0.9882	-0.31%	185	2
27	1.2802	1.4246	11.28%	-27	-54	189	0.9828	0.9767	-0.62%	193	4
33	1.2660	1.4008	10.65%	-19	-52	195	0.9744	0.9655	-0.92%	202	7
39	1.2521	1.3778	10.04%	-11	-50	201	0.9662	0.9545	-1.21%	210	9
45	1.2385	1.3556	9.45%	-3	-48	207	0.9581	0.9437	-1.50%	218	11
51	1.2252	1.3340	8.88%	5	-46	213	0.9501	0.9332	-1.77%	226	13
57	1.2122	1.3131	8.32%	14	-43	219	0.9423	0.9230	-2.05%	234	15
63	1.1995	1.2929	7.78%	22	-41	225	0.9346	0.9129	-2.31%	242	17
69	1.1870	1.2732	7.26%	30	-39	231	0.9270	0.9031	-2.58%	251	20
75	1.1748	1.2542	6.76%	38	-37	237	0.9195	0.8935	-2.83%	259	22
81	1.1629	1.2357	6.26%	46	-35	243	0.9122	0.8841	-3.08%	267	24
87	1.1512	1.2178	5.79%	54	-33	249	0.9049	0.8748	-3.33%	275	26
93	1.1397	1.2004	5.32%	63	-30	255	0.8978	0.8658	-3.57%	283	28
99	1.1284	1.1834	4.87%	71	-28	261	0.8908	0.8570	-3.80%	291	30
105	1.1174	1.1670	4.44%	79	-26	267	0.8839	0.8483	-4.03%	300	33
111	1.1066	1.1509	4.01%	87	-24	273	0.8771	0.8398	-4.26%	308	35
117	1.0959	1.1354	3.60%	95	-22	279	0.8738	0.8356	-4.37%	312	36
123	1.0855	1.1202	3.19%	103	-20	285	0.8672	0.8274	-4.59%	320	38
129	1.0753	1.1054	2.80%	112	-17	291	0.8606	0.8193	-4.80%	328	40
135	1.0653	1.0911	2.42%	120	-15	297	0.8542	0.8114	-5.01%	336	42

Table #5

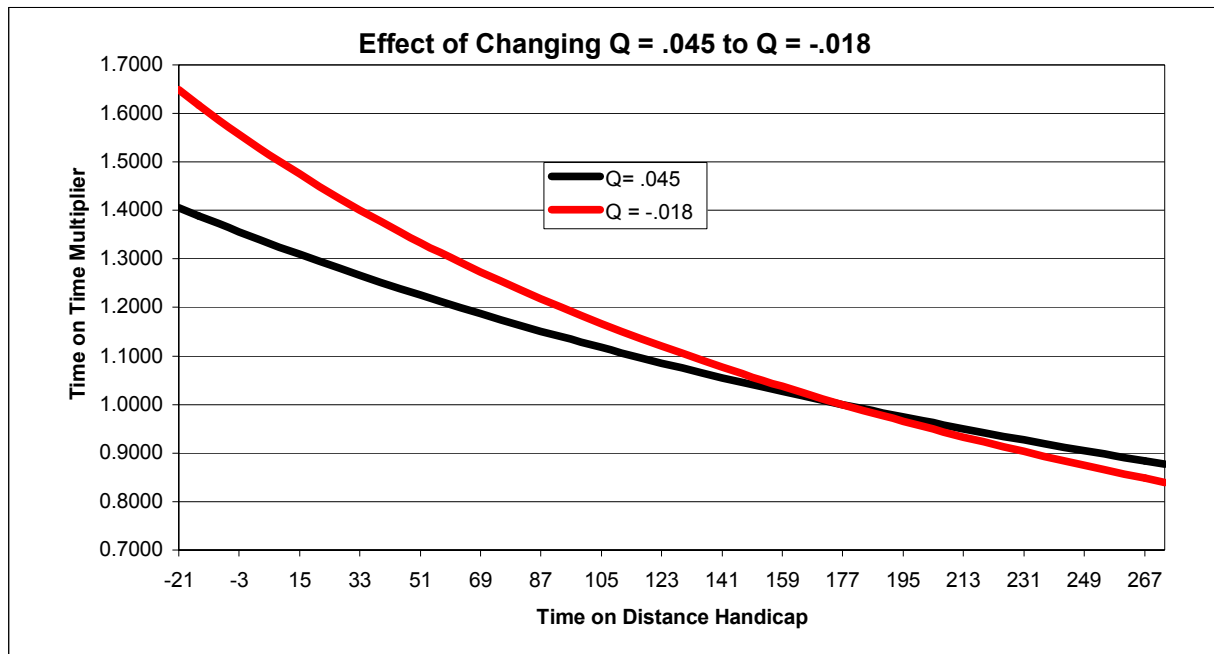


Fig. #9

With  $Q = -.018$  the total range of handicaps is expanded by approximately 114 sec/mile. At  $Q = -0.018$  a 30 sec/mile rating difference between boats results in an approximate 13 sec/mile handicap advantage to the slower boat as compared to the existing " $Q$ " = .045.

## CONCLUSIONS

1. The large spread of ratings within divisions on Lake Ontario (60 sec/mile average) demonstrates the need to periodically monitor how the handicap process is working and adjust  $Q$  if necessary to maintain equability across handicap ranges.
2. The results of this study indicate that, on the average, faster rated boats in all speed ranges have an inherent advantage as evidenced by the race data. This advantage is not constant and is greater for the slower rated fleets. From the data studied, and for boats with TOD less than 100, the error is approximately 6 sec/mile for a division with a 30 sec/mile rating spread but may be 13 sec/mile or more for the slower boats with TOD greater than 100. This advantage scales with the rating spread within a division. For a 60 sec/mile rating spread within a division, that error would double.
3. Adjusting  $Q$  and the resulting TOT conversion formula would be new to PHRF-LO but it must be clearly understood that this should be considered an expected event in the handicapping process. It is not an implementation of a new concept. We have had the tool available to us since the inception of PHRF-LO but, to date, have not implemented it.
4. With the present  $Q$  of 0.045 the magnitude of the induced "global" error within a division can be greater than an individual rating error which brings up the possibility of confusing an individual handicap error for the " $Q$ " global error. The global error could cause a boat to look "under" handicapped at one club and "over" handicapped in another strictly due to its divisional placement. This could be a source of performance confusion causing a churning of the entire handicap base from year to year. Assuming that this error presently exists, *race data and subsequent analysis for boats that are near the ends of a divisional handicap range require extra scrutiny before any adjustment is contemplated as a result of that data.*
5. All present PHRF-LO analysis is based on adjusting out global bias using the TOD to TOT conversion (including the present  $Q = 0.045$  value). It should be reiterated that because of the  $Q$  adjustment *TOD and TOT handicaps are not equivalent.*

## ACKNOWLEDGMENTS

The author wishes to thank Andrew Sensicle and Diana Riley for supplying the data used in this study and for valuable consultation and editing in the preparation of this white paper.

## APPENDIX A – List of the race data files used in the analysis

ABYC2004FS151-200		
ABYC 2004 FS 201+	BLUFFS 2003 FS DIV 4	BRNS 2004 FS DIV 2
ABYC 2004 FS Spin <= 150	BLUFFS 2003 FS DIV 5	BRNS 2004 FS DIV 3
ABYC 2004 NFS Jam <=165	BLUFFS 2003 NFS NFS DIV 2	BRNS 2004 NFS JAM A
ABYC 2004 NFS Jam 166 - 207	BLUFFS 2003 NFS NFS DIV 3	BRNS 2004 NFS JAM B
ABYC 2004 NFS Jam 208+	BLUFFS 2004 FS DIV 1	BRNS 2004 NFS JAM C
ABYC 2005 FS SPIN <105	BLUFFS 2004 FS DIV 4	BRNS 2005 FS DIV 1
ABYC 2005 FS SPIN 105-150	BLUFFS 2004 FS DIV 5	BRNS 2005 FS DIV 2
ABYC 2005 FS SPIN 151-200	BLUFFS 2004 NFS DIV 2	BRNS 2005 FS PHRF 1
ABYC 2005 NFS JAM <=165	BLUFFS 2004 NFS DIV 3	BRNS 2005 NFS JAM 1
ABYC 2005 NFS JAM 166-207	BLUFFS 2005 FS BBC FLEET 3	BRNS 2005 NFS JAM 2
ABYC 2005 NFS JAM 208+	BLUFFS 2005 FS BBC FLEET 4	BRNS 2005 NFS JAM 3
ABYC 2006 FS DIV 1 SPIN <=111	BLUFFS 2005 FS FLEET 1	BRNS 2006 FS DIV 1 - 0 TO 165
ABYC 2006 FS DIV 2 SPIN 112 -	BLUFFS 2005 FS FLEET 4	BRNS 2006 FS DIV 2 - 166 - 216
ABYC 2006 FS DIV 3 SPIN >166	BLUFFS 2005 FS FLEET 5	BRNS 2006 FS PHRF DIV 3
ABYC 2006 NFS DIV 4 JAM <=	BLUFFS 2005 NFS BBC FLEET 2	BRNS 2006 FS SPRING 2
ABYC 2006 NFS DIV 5 JAM 172 -	BLUFFS 2005 NFS FLEET 2	BRNS 2006 FS SPRING DIV 1
ABYC 2006 NFS DIV 6 JAM >=	BLUFFS 2005 NFS FLEET 3	BRNS 2006 FS Womens
AYC 2006 FS SPINNAKER	BLUFFS 2006 FS FS Div 1	BRNS 2006 NFS JAM DIV 1
AYC 2006 NFS WHITESAIL	BLUFFS 2006 FS FS Div 4	BRNS 2006 NFS JAM DIV 2
bhyc 2003 FS FS 1	BLUFFS 2006 FS FS Div 5	BRNS 2006 NFS JAM DIV 3
bhyc 2003 FS FS 2	BLUFFS 2006 NFS NFS Div 2	bryc 2003 FS DIV 1
bhyc 2003 FS FS 3	BLUFFS 2006 NFS NFS Div 3	bryc 2003 NFS NFS
bhyc 2003 NFS M&J 1	bqyc 2003 FS DIV A	BRYC 2004 FS FS
bhyc 2003 NFS M&J 2	bqyc 2003 FS DIV B	BRYC 2004 NFS NFS
BHYC 2004 FS FS 1 >172	bqyc 2003 NFS NFS 1	BRYC 2005 FS FS
BHYC 2004 FS FS 2 125-172	bqyc 2003 NFS NFS 2	BRYC 2005 NFS WHITE SAIL
BHYC 2004 FS FS 3 <125	BQYC 2004 FS Wed Div 1	BRYC 2006 FS FS
BHYC 2004 FS Sport	BQYC 2004 FS Wed Div 2	BRYC 2006 NFS NFS
BHYC 2004 NFS NFS 1 >196	BQYC 2004 NFS FleetCapt	bsbc 2003 FS DIV 1
BHYC 2004 NFS NFS 2 <196	BQYC 2004 NFS Wed NFS	bsbc 2003 NFS NFS 1
BHYC 2005 FS B.ROCKS 1	BQYC 2005 FS CofC PHRF 1	bsbc 2003 NFS NFS 2
BHYC 2005 FS B.ROCKS 2a	BQYC 2005 FS CofC PHRF II	BSRH 2003 FS FS 1
BHYC 2005 FS B.ROCKS 2b	BQYC 2005 FS WA&B PHRF 1	BSRH 2003 FS FS 2
BHYC 2005 FS B.ROCKS 3a	BQYC 2005 FS WA&B PHRF 2	BSRH 2004 FS FS 1
BHYC 2005 FS B.ROCKS 3b	BQYC 2005 NFS WA&B NFS	BSRH 2004 FS FS 2
BHYC 2005 FS FS 2	BQYC 2006 FS Wed Spin 1	BSRH 2004 FS FS 3
BHYC 2005 FS FS 3	BQYC 2006 FS Wed SPIN 2	BSRH 2004 NFS NFS 1
BHYC 2005 FS FS1	BQYC 2006 NFS WED WS	BSRH 2004 NFS NFS 2
BHYC 2005 NFS B.ROCKS 1	BRNS 2003 FS <210 S/M	BSRH 2005 FS FS 1
BHYC 2005 NFS B.ROCKS 2	BRNS 2003 FS 210 + S/M	BSRH 2005 FS FS 2
BHYC 2005 NFS B.ROCKS 3	BRNS 2003 FS PHRF A	BSRH 2005 FS FS 3
BHYC 2005 NFS M&J 1	BRNS 2003 FS PHRF B	BSRH 2005 NFS CLASSICS
BHYC 2005 NFS M&J 2	BRNS 2003 FS WOMENS	BSRH 2005 NFS NFS 1
BHYC 2006 FS FS DIV 1	BRNS 2003 NFS JAM B	BSRH 2005 NFS NFS 2
BHYC 2006 FS FS DIV 2	BRNS 2003 NFS JAM C	BSRH 2005 NFS NFS 3
BHYC 2006 FS FS DIV 3	BRNS 2003 NFS NFS A	BSRH 2006 FS FS 1 - GREEN
BHYC 2006 NFS NFS DIV 1	BRNS 2003 NFS NFS B	BSRH 2006 FS FS 2 LIGHT BLUE
BHYC 2006 NFS NFS DIV 2	BRNS 2003 NFS NFS C	BSRH 2006 FS FS 3 YELLOW
BLUFFS 2003 FS DIV 1	BRNS 2004 FS DIV 1	BSRH 2006 NFS CLASSICS

BSRH 2006 NFS NFS 1 PINK  
 BSRH 2006 NFS NFS 2 BLACK  
 BSRH 2006 NFS NFS 3 WHITE  
 byc 2003 FS DIV 2  
 byc 2003 FS DIV 3  
 byc 2003 NFS NFS  
 BYC 2004 FS DIV 2  
 BYC 2004 FS DIV 3  
 BYC 2004 NFS DIV 1  
 BYC 2005 FS FS  
 BYC 2005 NFS NFS  
 BYC 2006 FS FS 1  
 BYC 2006 FS FS 2  
 BYC 2006 NFS NFS  
 cfbt 2003 FS FS  
 cfbt 2003 NFS NFS  
 CFBT 2004 FS FS  
 CFBT 2004 NFS NFS  
 CFBT 2005 FS FS  
 CFBT 2005 NFS NFS  
 CFBT 2006 FS FS  
 CFBT 2006 NFS NFS  
 coba 2003 FS DIV 1  
 COBA 2004 FS FS  
 COBA 2005 FS FS  
 COBA 2006 FS FLEET 1  
 COBA 2006 FS FLEET 2  
 coy 2003 FS DIV 1  
 coy 2003 FS DIV 2  
 COYC 2004 FS Sun  
 COYC 2004 FS Wed Blue  
 COYC 2004 FS Wed Gold  
 COYC 2004 FS Wed White  
 COYC 2005 FS BLUE  
 COYC 2005 FS GOLD  
 COYC 2005 FS GREEN  
 COYC 2005 FS WHITE  
 COYC 2006 FS FALL  
 COYC 2006 FS GOLD  
 COYC 2006 FS GREEN  
 CVGR 2006 FS FLYING SAILS  
 CVGR 2006 NFS NON FLYING  
 dyc 2003 FS DIV A  
 dyc 2003 FS DIV B  
 dyc 2003 NFS NFS DIV C  
 DYC 2004 FS CORN PHRF 1  
 DYC 2004 FS CORN PHRF 2  
 DYC 2004 FS Spin A  
 DYC 2004 FS Spin B  
 DYC 2004 FS Spin C  
 DYC 2004 NFS CORN NFS  
 DYC 2005 FS CORN 1

DYC 2005 FS CORN 2  
 DYC 2005 FS SPIN A  
 DYC 2005 FS SPIN B  
 DYC 2005 FS SPIN C  
 DYC 2005 NFS CORN 1  
 DYC 2005 NFS CORN 2  
 DYC 2005 NFS W.SAIL  
 DYC 2006 FS DYC SPIN A  
 DYC 2006 FS DYC SPIN B  
 DYC 2006 NFS DYC MAIN AND  
 4  
 eyc 2003 FS DIV 1  
 eyc 2003 FS DIV 2  
 eyc 2003 FS DIV 3  
 eyc 2003 NFS DIV 1  
 eyc 2003 NFS DIV 2  
 eyc 2003 NFS DIV 3  
 eyc 2003 NFS DIV 4  
 eyc 2003 NFS DIV 5  
 eyc 2003 NFS DIV 6  
 EYC 2004 FS TUES LRG SPIN  
 EYC 2004 FS TUES SML SPIN  
 EYC 2004 NFS THURS LRG  
 EYC 2004 NFS THURS MID  
 EYC 2004 NFS THURS SML  
 EYC 2004 NFS TUES LRG WHITE  
 EYC 2004 NFS TUES SML WHITE  
 EYC 2005 FS TUES LRG SPIN  
 EYC 2005 FS TUES SM SPIN  
 EYC 2005 NFS THURS LRG  
 EYC 2005 NFS THURS LRG  
 EYC 2005 NFS THURS MID  
 EYC 2005 NFS THURS SM  
 EYC 2005 NFS TUES LRG WHITE  
 EYC 2005 NFS TUES SM WHITE  
 EYC 2006 FS LARGE SPINN  
 EYC 2006 FS MID SPIN TUES  
 EYC 2006 NFS LARGE WHITE  
 EYC 2006 NFS LARGE WHITE  
 EYC 2006 NFS MID WHITE THUR  
 EYC 2006 NFS SMALL WHITE  
 EYC 2006 NFS SMALL WHITE  
 fbyc 2003 FS DIV 1  
 fbyc 2003 NFS NFS DIV  
 FBYC 2004 FS FS  
 FBYC 2004 FS Regatta A  
 FBYC 2004 NFS NFS  
 FBYC 2004 NFS Regatta C  
 FBYC 2005 FS DIV 1  
 FBYC 2005 FS DIV B  
 FBYC 2005 FS DIV C  
 FBYC 2005 NFS DIV 2

FBYC 2005 NFS DIV C  
 FBYC 2006 FS DIV A  
 FBYC 2006 FS REGATTA DIV A  
 FBYC 2006 NFS DIV B  
 FBYC 2006 NFS REGATTA DIV B  
 gyc 2003 FS A FS Tue  
 gyc 2003 FS B FS Tue  
 gyc 2003 FS C FS Tues  
 gyc 2003 NFS A NFS Tue  
 gyc 2003 NFS B NFS Tues  
 GYC 2004 FS A FS  
 GYC 2004 FS B FS  
 GYC 2004 FS C FS  
 GYC 2004 FS D FS  
 GYC 2004 NFS A NFS  
 GYC 2004 NFS B NFS  
 GYC 2005 FS SPIN A  
 GYC 2005 FS SPIN B  
 GYC 2005 FS SPIN C  
 GYC 2005 FS SPIN D  
 GYC 2005 NFS GO A  
 GYC 2005 NFS GO B  
 GYC 2006 FS FS - DIV A  
 GYC 2006 FS FS - DIV B  
 GYC 2006 FS FS - DIV C  
 GYC 2006 FS FS - DIV D  
 GYC 2006 FS FS - DIV E  
 GYC 2006 NFS NFS - DIV A  
 GYC 2006 NFS NFS - DIV B  
 HBCN 2003 FS FS  
 HBCN 2003 NFS NFS A  
 HBCN 2003 NFS NFS B  
 HBCN 2004 NFS White A  
 HBCN 2004 NFS White B  
 HBCN 2005 FS SPIN  
 HBCN 2005 NFS WHITE A  
 HBCN 2005 NFS WHITE B  
 HBCN 2006 FS SPINN  
 HBCN 2006 NFS NFS A  
 HBCN 2006 NFS NFS B  
 INTCLB 2003 FS CORK Phrf 1  
 INTCLB 2003 FS CORK Phrf 2  
 INTCLB 2003 FS CORK Phrf 3  
 INTCLB 2003 FS LORC DIV 1  
 INTCLB 2003 FS LORC DIV II  
 INTCLB 2003 FS LORC DIV III  
 INTCLB 2003 FS LORC DIV IV  
 INTCLB 2003 FS LORC IMS  
 INTCLB 2003 NFS LORC NFS  
 INTCLB 2004 FS CORK PHRF 1  
 INTCLB 2004 FS CORK PHRF 2  
 INTCLB 2004 FS CORK PHRF 3

INTCLB 2004 FS EAST DIV 1 2004  
 INTCLB 2004 FS EAST DIV 2 2004  
 INTCLB 2004 FS EAST DIV 3 2004  
 INTCLB 2004 FS Hospice PHRF I  
 INTCLB 2004 FS Hospice PHRF II  
 INTCLB 2004 FS Hospice Spin Div  
 INTCLB 2004 FS Hospice Spin Div  
 INTCLB 2004 FS LORC DIV 1  
 INTCLB 2004 FS LORC DIV 2  
 INTCLB 2004 FS LORC DIV 3  
 INTCLB 2004 FS LORC DIV 4  
 INTCLB 2004 FS LYRA IRC 1  
 INTCLB 2004 FS LYRA IRC 2  
 INTCLB 2004 FS LYRA PHRF 1  
 INTCLB 2004 FS LYRA PHRF 2  
 INTCLB 2004 FS LYRA PHRF 3  
 INTCLB 2004 FS LYRA PHRF 4  
 INTCLB 2004 FS LYRA PHRF 5  
 INTCLB 2004 FS LYRA PHRF 6  
 INTCLB 2004 FS LYRA PHRF 7  
 INTCLB 2004 NFS LORC NFS  
 INTCLB 2005 FS CORK PHRF 1  
 INTCLB 2005 FS CORK PHRF 2  
 INTCLB 2005 FS EAST PHRF 1  
 INTCLB 2005 FS EAST PHRF 2  
 INTCLB 2005 FS EAST PHRF 3  
 INTCLB 2005 FS HOSPICE A  
 INTCLB 2005 FS HOSPICE B  
 INTCLB 2005 FS Hospice PHRF 1  
 INTCLB 2005 FS Hospice PHRF 2  
 INTCLB 2005 FS Hospice PHRF 3  
 INTCLB 2005 FS LORC 1  
 INTCLB 2005 FS LORC 2  
 INTCLB 2005 FS LORC 3  
 INTCLB 2005 FS LORC 4  
 INTCLB 2005 FS LYRA PHRF 1  
 INTCLB 2005 FS LYRA PHRF 2  
 INTCLB 2005 FS LYRA PHRF 3  
 INTCLB 2005 FS LYRA PHRF 4  
 INTCLB 2005 FS LYRA PHRF 5  
 INTCLB 2005 NFS EAST NFS  
 INTCLB 2005 NFS LORC NFS  
 INTCLB 2006 FS BSBC SWINE FS  
 INTCLB 2006 FS BSBC SWINE FS  
 INTCLB 2006 FS CORK FLEET 1  
 INTCLB 2006 FS CORK FLEET 2  
 INTCLB 2006 FS CORK FLEET 3  
 INTCLB 2006 FS EYC - SPIN 1  
 INTCLB 2006 FS EYC - SPIN 3  
 INTCLB 2006 FS EYC- SPIN 2  
 INTCLB 2006 FS EYC SPIN 4  
 INTCLB 2006 FS GYC HOSPICE

INTCLB 2006 FS GYC HOSPICE  
 INTCLB 2006 FS GYC HOSPICE  
 INTCLB 2006 FS GYC HOSPICE  
 INTCLB 2006 FS GYC HOSPICE  
 INTCLB 2006 FS LORC IRC DIV 1  
 INTCLB 2006 FS LORC IRC DIV 2  
 INTCLB 2006 FS LORC PHRF DIV  
 INTCLB 2006 FS LORC PHRF DIV  
 INTCLB 2006 FS LORC PHRF DIV  
 INTCLB 2006 FS LORC PHRF DIV  
 INTCLB 2006 FS LYRA PHRF I  
 INTCLB 2006 FS LYRA PHRF II  
 INTCLB 2006 FS LYRA PHRF III  
 INTCLB 2006 FS LYRA PHRF IV  
 INTCLB 2006 FS LYRA PHRF V  
 INTCLB 2006 FS NYC C&C PHRF  
 INTCLB 2006 FS NYC C&C REG  
 INTCLB 2006 FS NYC C&C REG  
 INTCLB 2006 FS NYC C&C REG  
 INTCLB 2006 FS SAIL OSWEGO  
 INTCLB 2006 FS SAIL OSWEGO  
 INTCLB 2006 FS SAIL OSWEGO  
 INTCLB 2006 FS SAIL OSWEGO  
 INTCLB 2006 NFS BSBC SWINE  
 INTCLB 2006 NFS BSBC SWINE  
 INTCLB 2006 NFS BSBC SWINE  
 INTCLB 2006 NFS EYC. WS  
 INTCLB 2006 NFS GYC HOSPICE  
 INTCLB 2006 NFS GYC HOSPICE  
 INTCLB 2006 NFS GYC HOSPICE  
 INTCLB 2006 NFS GYC HOSPICE  
 INTCLB 2006 NFS LORC NFS DIV  
 INTCLB 2006 NFS LYRA PHRF VI  
 INTCLB 2006 NFS NYC C&C REG  
 INTCLB 2006 NFS NYC C&C REG  
 INTCLB 2006 NFS OTMH (BHYC)  
 INTCLB 2006 NFS OTMN (BHYC)  
 4  
 INTCLB 2006 NFS SAIL OSWEGO  
 kyc 2003 FS FS  
 KYC 2004 FS FS  
 KYC 2005 FS THURS  
 KYC 2005 FS TUES  
 KYC 2006 FS THURS  
 KYC 2006 FS TUES  
 lsysa 2003 FS FS  
 lsysa 2003 FS LSIS FS  
 lsysa 2003 NFS LSIS NFS  
 lsysa 2003 NFS NFS  
 LSYA 2004 FS FS  
 LSYA 2004 NFS NFS DIV 1  
 LSYA 2004 NFS NFS HI

LSYA 2005 FS FS  
 LSYA 2005 FS LSIS  
 LSYA 2005 NFS NFS  
 LSYA 2006 FS BARRIE FS  
 LSYA 2006 FS FLYING SAILS  
 LSYA 2006 NFS BARRIE NFS  
 LSYA 2006 NFS NON FLYING  
 LSYC 2004 FS FS DIV  
 LSYC 2004 NFS WHITE 1  
 LSYC 2004 NFS WHITE 2  
 LSYC 2005 FS SPIN  
 LSYC 2005 NFS W.SAIL 1  
 LSYC 2005 NFS W.SAIL 2  
 LSYC 2006 FS FS 1  
 LSYC 2006 NFS NFS 1  
 LSYC 2006 NFS NFS 2  
 MBSC 2005 FS A FLEET  
 MBSC 2005 FS B FLEET  
 MBSC 2005 NFS WHITE SAILS  
 MBSC 2006 FS REGATTA  
 MBSC 2006 FS SPIN  
 MBSC 2006 NFS NFS  
 mcc 2003 FS FS  
 mcc 2003 NFS NFS  
 MCC 2004 FS FS  
 MCC 2004 NFS NFS  
 MCC 2005 FS DIV D  
 MCC 2005 NFS DIV B  
 MCC 2005 NFS DIV C  
 MCC 2006 FS Flying Sails  
 MCC 2006 NFS NFS  
 NLYY 2003 FS DIV 1  
 NLYY 2003 FS DIV 2  
 NLYY 2003 FS DIV 3  
 NLYY 2003 NFS NFS  
 NLYY 2004 FS Niag Cup PHRF 1  
 NLYY 2004 FS Niag Cup PHRF 2  
 NLYY 2004 FS Niag Cup PHRF 3  
 NLYY 2004 FS PHRF 1  
 NLYY 2004 FS PHRF 2  
 NLYY 2004 NFS BLUE  
 NLYY 2004 NFS M&J  
 NLYY 2004 NFS YELLOW  
 NLYY 2005 FS C&C 29  
 NLYY 2005 FS NIAG.CUP 1  
 NLYY 2005 FS NIAG.CUP 2  
 NLYY 2005 FS NIAG.CUP 3  
 NLYY 2005 FS PELICAN 1  
 NLYY 2005 FS PELICAN 2  
 NLYY 2005 FS PHRF 1  
 NLYY 2005 FS PHRF 2  
 NLYY 2005 NFS M&J

NLYY 2006 FS PHRF 1  
 NLYY 2006 FS PHRF 2  
 NLYY 2006 FS PHRF 3  
 NLYY 2006 NFS MAIN & JIB  
 NYC 2004 FS Wed BB <171 (Split)  
 NYC 2004 FS Wed BB <171 (Split)  
 NYC 2004 FS Wed PHRF I  
 NYC 2004 FS Wed PHRF II  
 NYC 2004 FS Wed PHRF III  
 NYC 2004 NFS Tues PHRF I  
 NYC 2004 NFS Tues PHRF II  
 NYC 2004 NFS Tues PHRF IV  
 NYC 2005 FS WED PHRF I  
 NYC 2005 FS WED PHRF II  
 NYC 2005 FS WED PHRF III  
 NYC 2005 FS WED PHRF IV  
 NYC 2005 FS WED PHRF V  
 NYC 2005 FS WED PHRF VI  
 NYC 2005 NFS TUES DIV 1  
 NYC 2005 NFS TUES DIV II  
 NYC 2005 NFS TUES DIV III  
 NYC 2005 NFS TUES DIV IV  
 NYC 2005 NFS TUES QT  
 NYC 2006 FS IRC 1 WED  
 NYC 2006 FS PHRF 2 WED  
 NYC 2006 FS PHRF 3 WED  
 NYC 2006 FS PHRF 4 WED  
 NYC 2006 FS PHRF 5 WED  
 NYC 2006 NFS DIV 1 TUES  
 NYC 2006 NFS PHRF 2 TUES  
 NYC 2006 NFS PHRF 3 TUES  
 NYC 2006 NFS PHRF 4 TUES  
 oswg 2003 FS FS DIV 1  
 oswg 2003 FS FS DIV 2  
 oswg 2003 FS FS DIV 3  
 oswg 2003 FS FS DIV 4  
 oswg 2003 NFS NFS DIV 1  
 OSWG 2004 FS FS DIV 1  
 OSWG 2004 FS FS DIV 2  
 OSWG 2004 FS Sail Oswego DIV  
 OSWG 2004 FS Sail Oswego DIV  
 OSWG 2004 FS Sail Oswego DIV  
 OSWG 2005 FS PHRF 1  
 OSWG 2005 FS PHRF 2  
 OSWG 2005 FS SO PHRF 1  
 OSWG 2005 FS SO PHRF 2  
 OSWG 2005 FS SO PHRF 3  
 OSWG 2005 NFS SO NFS  
 OSWG 2006 FS DIV 1  
 OSWG 2006 FS DIV 2  
 OSWG 2006 FS HOSPICE DIV 1  
 OSWG 2006 FS HOSPICE DIV 2  
 OSWG 2006 NFS DIV 4  
 OSWG 2006 NFS HOSPICE DIV 4  
 oyc 2003 FS DIV 1  
 oyc 2003 FS DIV 2  
 oyc 2003 NFS NFS  
 OYC 2004 FS SPINNAKER  
 OYC 2004 NFS WHITE SAIL  
 OYC 2005 FS PHRF II  
 OYC 2005 NFS PHRF 1  
 OYC 2006 FS DIV 2 - FS  
 OYC 2006 NFS DIV 1 - NFS  
 OYC 2006 NFS WOMENS - NFS  
 oys 2003 FS A&B FS 1  
 oys 2003 FS A&B FS 2  
 oys 2003 FS A&B FS 3  
 oys 2003 FS FS A  
 oys 2003 FS FS B  
 oys 2003 NFS A&B M&J 1  
 oys 2003 NFS A&B M&J 2  
 oys 2003 NFS A&B NFS 1  
 oys 2003 NFS A&B NFS 2  
 oys 2003 NFS A&B NFS 3  
 oys 2003 NFS A&B NFS 4  
 oys 2003 NFS NFS B  
 OYS 2004 FS Fall PHRF 2  
 OYS 2004 FS Wed A PHRF 2  
 OYS 2004 FS Wed A PHRF 3  
 OYS 2004 FS Wed A& B PHRF 1  
 OYS 2004 NFS M&J 1  
 OYS 2004 NFS M&J 2  
 OYS 2004 NFS Thurs A M&J 2  
 OYS 2004 NFS Thurs A M&J 3  
 OYS 2004 NFS Thurs A M&J 4  
 OYS 2004 NFS Thurs A&B M&J 1  
 OYS 2004 NFS Wed A&B M&J 1  
 OYS 2004 NFS Wed A&B M&J 2  
 OYS 2005 FS FALL PHRF 2  
 OYS 2005 FS SPORT  
 OYS 2005 FS WED PHRF 1  
 OYS 2005 FS WED PHRF 2  
 OYS 2005 FS WED PHRF 3  
 OYS 2005 NFS THURS M&J 1  
 OYS 2005 NFS THURS M&J 2  
 OYS 2005 NFS THURS M&J 3  
 OYS 2005 NFS THURS M&J 4  
 OYS 2005 NFS THURS M&J 5  
 OYS 2005 NFS WED M&J 1  
 OYS 2005 NFS WED M&J 2  
 OYS 2005 NFS WED M&J 3  
 OYS 2006 FS PHRF 1  
 OYS 2006 FS PHRF 2  
 OYS 2006 FS WED PHRF 2  
 OYS 2006 FS WED PHRF 3  
 OYS 2006 FS WED PHRF 4  
 OYS 2006 FS WED PHRF 5  
 PCYC 2004 FS S2  
 PCYC 2004 NFS W1  
 PCYC 2004 NFS W3  
 PCYC 2005 FS SPIN 1  
 PCYC 2005 FS SPIN 2  
 PCYC 2005 NFS WHITE 1  
 PCYC 2005 NFS WHITE 2  
 PCYC 2005 NFS WHITE 3  
 PCYC 2006 FS SPIN 1  
 PCYC 2006 FS SPIN 2  
 PCYC 2006 FS SPIN 3  
 PCYC 2006 NFS WHITE 1  
 PCYC 2006 NFS WHITE 3  
 pyc 2003 FS FS  
 pyc 2003 NFS NFS  
 PYC 2004 FS FS  
 PYC 2004 NFS NFS  
 PYC 2005 FS FS  
 PYC 2005 NFS NFS  
 PYC 2006 FS SPINNAKER  
 PYC 2006 NFS GENOA  
 qcyc 2003 NFS DIV 1  
 qcyc 2003 NFS DIV 3  
 qcyc 2003 NFS DIV 4  
 qcyc 2003 NFS DIV 5  
 QCYC 2004 NFS CofC  
 QCYC 2004 NFS GP NFS  
 QCYC 2004 NFS PHRF-1  
 QCYC 2004 NFS PHRF-2  
 QCYC 2004 NFS PHRF-3  
 QCYC 2004 NFS PHRF-4  
 QCYC 2005 NFS NFS 1  
 QCYC 2005 NFS NFS 2  
 QCYC 2005 NFS NFS 3  
 QCYC 2005 NFS NFS 4  
 QCYC 2006 NFS PHRF 1  
 QCYC 2006 NFS PHRF 2 & 3 & 5  
 QCYC 2006 NFS PHRF 4 &  
 RCYC 2003 NFS PHRF 1  
 RCYC 2003 NFS PHRF 2  
 RCYC 2003 NFS PHRF 3  
 RCYC 2003 NFS PHRF 4  
 RCYC 2004 NFS PHRF 1  
 RCYC 2004 NFS PHRF 2

RCYC 2004 NFS PHRF 3  
 RCYC 2005 NFS PHRF I  
 RCYC 2005 NFS PHRF II  
 RCYC 2005 NFS PHRF III  
 RCYC 2006 NFS PHRF 1  
 RCYC 2006 NFS PHRF II  
 RCYC 2006 NFS PHRF III  
 rhyc 2003 FS FS DIV 1  
 rhyc 2003 FS FS Div 2  
 ryc 2003 FS DIV 1  
 ryc 2003 FS DIV 3  
 ryc 2003 FS DIV 4  
 ryc 2003 NFS NFS 2  
 ryc 2003 NFS NFS 3  
 RYC 2004 FS FS DIV 4  
 RYC 2004 FS FS DIV 5  
 RYC 2004 FS FS DIV 6  
 RYC 2004 FS Wed DIV 1  
 RYC 2004 NFS GO DIV 1  
 RYC 2004 NFS GO DIV 2  
 RYC 2004 NFS GO DIV 3  
 RYC 2005 FS DIV 2  
 RYC 2005 FS DIV 3  
 RYC 2005 FS DIV 4  
 RYC 2005 FS DIV 5  
 RYC 2005 FS DIV 6  
 RYC 2005 FS HOSP 1  
 RYC 2005 FS HOSP 2  
 RYC 2005 FS HOSP 3  
 RYC 2005 FS HOSP 4  
 RYC 2005 FS HOSP 5  
 RYC 2005 FS SSRC DIV 3  
 RYC 2005 FS SSRC DIV 4  
 RYC 2005 NFS DIV 1  
 RYC 2005 NFS DIV 2  
 RYC 2005 NFS DIV 3  
 RYC 2006 FS DIV 2  
 RYC 2006 FS DIV 3  
 RYC 2006 FS DIV 4  
 RYC 2006 FS DIV 5  
 sbyc 2003 FS DIV 1  
 SBYC 2004 FS Chall Cup -DIV 2  
 SBYC 2004 FS Chall Cup-DIV 1  
 SBYC 2004 FS Chall Cup-DIV 3  
 SBYC 2004 FS DIV 1  
 SBYC 2005 FS FS 1  
 SBYC 2005 NFS NFS  
 sga 2003 NFS NFS  
 SGA 2004 NFS NFS  
 SGA 2005 NFS NFS  
 SGA 2006 NFS WHITE SAIL  
 THSC 2004 FS REGATTA  
 THSC 2006 FS MIDWEEK FS  
 THSC 2006 FS WEEKEND FS  
 THSC 2006 NFS MIDWEEK NFS  
 wyc 2003 FS FS 1  
 wyc 2003 NFS NFS 1  
 wyc 2003 NFS NFS 2  
 WYC 2004 FS FS DIV 3  
 WYC 2004 FS FS DIV 4  
 WYC 2004 NFS NFS DIV 1  
 WYC 2004 NFS NFS DIV 2  
 WYC 2005 FS DIV 3  
 WYC 2005 FS DIV 4  
 WYC 2005 NFS DIV 1  
 WYC 2005 NFS DIV 2  
 WYC 2006 FS FS - DIV 3  
 WYC 2006 FS FS - DIV 4  
 WYC 2006 NFS NFS - DIV 1  
 WYC 2006 NFS NFS - DIV 2  
 wyra 2003 FS FS  
 wyra 2003 NFS NFS  
 WYRA 2004 FS FS  
 WYRA 2004 NFS NFS 1  
 WYRA 2004 NFS NFS 2  
 WYRA 2005 FS SPIN  
 WYRA 2005 NFS M&J 1  
 WYRA 2005 NFS M&J 2