

# An Analysis of the Bill James' NHBA Player Ranking System

By Kevin A. Harlow

Email: harlowk22@cox.net

V1.0 - January 20, 2003

The purpose of this article is to examine James' subjective adjustments that he made to produce the player rankings in the New Historical Baseball Abstract. Also, player rankings will be produced based solely on James' objective criteria.

The New Bill James Historical Baseball Abstract (NHBA) contains James' rankings for his top 100 players at each position. James says that his rankings are based upon the following criteria (p. 340-345):

- 1) Career WS (CarWS)
- 2) Best 3 seasons WS (B3)
- 3) Best 5 consecutive WS seasons (C5)
- 4) Career WS per season (WSPS)
- 5) Time Line Adjustment
- 6) Subjective
  - a. Statistically undocumented portions of a player's career
  - b. Inequalities in the caliber of competition
  - c. World Series performance
  - d. Positive or negative leadership
  - e. Clutch performance
  - f. Special contributions of the player undefined by the statistics
  - g. Defensive value beyond that accounted for in the WS system
  - h. Emergency statistical override

Specifically, the objective portion (parts 1-5) as specified by James is given by the equation

$$OBJ = 2/(1/25 + 10/CarWS) + B3/3 + C5/5 + WSPS + (YearBorn-1800)/10$$

I entered into a spreadsheet the data contained in the top 100 lists at the end of each position section and sorted in descending order of OBJ by position. This results in an order that is often greatly different than the order given in the NHBA. Table 1 is a listing of the top 20 at each position by James' objective criteria. The WS data is updated through 2001. Rnk is the player's positional ranking as given in the NHBA.

Table 1. Top 20 Players at Each Position by OBJ

Name	Pos	Rnk	OBJ
Lou Gehrig	1B	1	160.93
Dick Allen	1B	15	147.44
Jimmie Foxx	1B	2	145.80
Jeff Bagwell	1B	4	144.29

Will Clark	1B	14	143.83
Frank Thomas	1B	10	143.56
Willie McCovey	1B	9	138.81
Mark McGwire	1B	3	138.74
Johnny Mize	1B	6	133.23
Harmon Killebrew	1B	7	132.55
Eddie Murray	1B	5	130.87
Dan Brouthers	1B	18	128.45
Hank Greenberg	1B	8	127.62
Don Mattingly	1B	12	126.47
Roger Connor	1B	22	126.43
Keith Hernandez	1B	16	124.68
Tony Perez	1B	13	124.49
Rafael Palmeiro	1B	19	123.45
Norm Cash	1B	20	122.71
Frank Chance	1B	25	122.16
Rogers Hornsby	2B	3	160.31
Joe Morgan	2B	1	159.61
Eddie Collins	2B	2	157.03
Nap Lajoie	2B	6	150.58
Craig Biggio	2B	5	141.11
Ryne Sandberg	2B	7	137.96
Jackie Robinson	2B	4	135.78
Rod Carew	2B	9	134.38
Charlie Gehringer	2B	8	133.26
Roberto Alomar	2B	10	130.26
Bobby Grich	2B	12	129.12
Frankie Frisch	2B	11	124.17
Billy Herman	2B	14	120.21
Kid Gleason	2B	72	118.85
Chuck Knoblauch	2B	21	118.67
Lou Whitaker	2B	13	118.56
Larry Doyle	2B	20	117.92
Nellie Fox	2B	15	115.88
Willie Randolph	2B	17	114.57
Bobby Doerr	2B	18	113.27
Mike Schmidt	3B	1	150.56
Eddie Mathews	3B	3	146.19
Wade Boggs	3B	4	139.28
Frank Baker	3B	5	139.14
George Brett	3B	2	138.95
Ron Santo	3B	6	132.81
Paul Molitor	3B	8	127.86
Al Rosen	3B	14	127.17
Stan Hack	3B	9	126.14
Sal Bando	3B	11	124.26

Heinie Groh	3B	21	122.16
Edgar Martinez	3B	31	120.48
Bobby Bonilla	3B	41	120.14
Chipper Jones	3B	28	119.98
Darrell Evans	3B	10	118.69
Ken Caminiti	3B	25	118.18
Brooks Robinson	3B	7	117.23
Ken Boyer	3B	12	116.68
Ron Cey	3B	16	115.21
John McGraw	3B	26	114.52
Mike Piazza	C	5	141.51
Johnny Bench	C	2	136.79
Yogi Berra	C	1	134.29
Gary Carter	C	8	127.42
Mickey Cochrane	C	4	124.62
Joe Torre	C	11	122.84
Bill Dickey	C	7	122.37
Carlton Fisk	C	6	120.87
Roy Campanella	C	3	120.48
Bill Freehan	C	12	119.50
Ted Simmons	C	10	117.62
Gene Tenace	C	23	115.75
Gabby Hartnett	C	9	114.19
Ivan Rodriguez	C	13	113.21
Elston Howard	C	15	109.26
Roger Bresnahan	C	16	108.66
Thurman Munson	C	14	107.94
Darren Daulton	C	25	105.69
Lance Parrish	C	19	105.11
Mickey Tettleton	C	37	104.47
Mickey Mantle	CF	3	178.42
Ty Cobb	CF	2	173.56
Tris Speaker	CF	4	168.65
Willie Mays	CF	1	164.58
Joe DiMaggio	CF	5	150.89
Duke Snider	CF	6	139.97
Ken Griffey Jr.	CF	7	134.89
Billy Hamilton	CF	9	132.62
Larry Doby	CF	11	129.22
Jimmy Wynn	CF	10	128.94
Wally Berger	CF	13	127.70
Dale Murphy	CF	12	126.80
Kirby Puckett	CF	8	125.96
Benny Kauff	CF	94	125.39
Cesar Cedeno	CF	21	125.09
Hack Wilson	CF	19	123.61

Earl Averill	CF	14	123.39
Edd Roush	CF	15	122.20
Fred Lynn	CF	17	122.18
Richie Ashburn	CF	16	121.18
Ted Williams	LF	1	175.83
Barry Bonds	LF	3	164.00
Stan Musial	LF	2	161.96
Rickey Henderson	LF	4	146.38
Carl Yastrzemski	LF	5	142.65
Joe Jackson	LF	6	139.40
Tim Raines	LF	8	139.32
Ed Delahanty	LF	12	134.85
Al Simmons	LF	7	132.89
Willie Stargell	LF	9	132.16
Joe Medwick	LF	13	132.06
Jesse Burkett	LF	14	131.45
Frank Howard	LF	19	130.73
Elmer Smith	LF	75	130.64
Sherry Magee	LF	21	130.37
Charlie Keller	LF	17	128.67
Billy Williams	LF	11	128.52
Ralph Kiner	LF	18	128.42
Albert Belle	LF	20	127.79
Goose Goslin	LF	16	124.88
Charley Radbourn	P	45	180.08
John Clarkson	P	42	177.30
Bob Caruthers	P	88	172.86
Walter Johnson	P	1	168.50
Tim Keefe	P	54	167.11
Kid Nichols	P	9	161.77
Tommy Bond	P	97	159.08
Cy Young	P	4	157.54
Tony Mullane	P	82	155.75
Pete Alexander	P	3	154.15
Amos Rusie	P	28	149.86
Lefty Grove	P	2	148.17
Ed Walsh	P	19	143.29
Christy Mathewson	P	7	142.89
Hal Newhouser	P	36	137.37
Tom Seaver	P	6	136.46
Mordecai Brown	P	20	136.44
Carl Hubbell	P	13	134.20
Joe McGinnity	P	41	133.94
Bob Gibson	P	8	133.91
Babe Ruth	RF	1	195.60
Hank Aaron	RF	2	156.58

Frank Robinson	RF	3	148.65
Mel Ott	RF	4	148.23
Pete Rose	RF	5	139.55
Reggie Jackson	RF	7	136.69
Tony Gwynn	RF	6	135.40
Sam Crawford	RF	10	135.21
Paul Waner	RF	9	133.41
Elmer Flick	RF	23	130.03
Ken Singleton	RF	18	129.81
Gary Sheffield	RF	54	129.63
Bobby Bonds	RF	15	129.54
Roberto Clemente	RF	8	129.10
Harry Heilmann	RF	16	128.75
Dave Parker	RF	14	128.58
Al Kaline	RF	11	127.35
Bobby Murcer	RF	17	127.26
Dave Winfield	RF	13	125.98
Pedro Guerrero	RF	25	125.47
Honus Wagner	SS	1	179.00
John Ward	SS	37	155.28
Arky Vaughan	SS	2	143.11
Cal Ripken Jr.	SS	3	135.28
Robin Yount	SS	4	135.05
Barry Larkin	SS	6	129.36
Joe Cronin	SS	8	128.96
Alex Rodriguez	SS	17	128.49
Luke Appling	SS	11	126.94
Lou Boudreau	SS	12	124.24
Ernie Banks	SS	5	123.50
Alan Trammell	SS	9	122.66
Vern Stephens	SS	24	119.49
Hughie Jennings	SS	20	119.27
Jim Fregosi	SS	15	118.63
Pee Wee Reese	SS	10	118.25
George Davis	SS	14	118.07
Bill Dahlen	SS	23	117.82
Nomar Garciaparra	SS	19	117.26
Ozzie Smith	SS	7	115.83

In order to reconcile the rankings produced with OBJ to James's rankings, I added adjustments (ADJ) to each player in a somewhat reasonable fashion.

$$\text{VALUE} = \text{OBJ} + \text{ADJ}$$

The positional rankings produced by VALUE give the same rankings for each player as the rankings in the NHBA. Note that these adjustments are not unique.

You might assume as I initially did that ADJ is the subjective portion of the ranking criteria. However, after looking at ADJ for all the players it appeared that there were two additional objective factors that could be accounted for by the factors input into the OBJ equation. First, ADJ was still a function of YearBorn. Second, ADJ was positively correlated with a long and productive career. Either James specifically included an undisclosed objective part of the formula to account for these two factors or he did so intuitively, but consistently. I defined ADJ as the sum of an objective adjustment and a subjective adjustment.

$$ADJ = ADJ\_OBJ + ADJ\_SUBJ$$

The next step was to come up with a rough function, called F\_YR, based on YearBorn which will be used with CarWS, B3, etc. in determining the objective adjustment. I "guesstimated" F\_YR, which is different for pitchers and non-pitchers. For non-pitchers I used the following:

#### Non-Pitchers

$$F\_YR = \begin{array}{l} 0 \text{ for YearBorn} < 1860 \\ -2 \text{ for } 1860 \leq \text{YearBorn} \leq 1880 \\ 0 \text{ for } 1881 \leq \text{YearBorn} \leq 1906 \\ 3 \text{ for } 1907 \leq \text{YearBorn} \leq 1926 \\ 2 \text{ for } 1927 \leq \text{YearBorn} \leq 1945 \\ 1 \text{ for } 1946 \leq \text{YearBorn} \leq 1955 \\ -2 \text{ for } 1956 \leq \text{YearBorn} \leq 1964 \\ -6 \text{ for YearBorn} > 1964 \end{array}$$

#### Pitchers

$$F\_Yr = \begin{array}{l} 3 \text{ for YearBorn} > 1884 \\ 3 - (7/3) * (1884 - \text{YearBorn}) \text{ for YearBorn} \leq 1884 \end{array}$$

The following linear equation was found by multiple linear regression:

$$ADJ\_OBJ = 11.01 + 0.042 * \text{CarWS} - 0.0407 * \text{C5} - 0.1455 * \text{B3} - 0.2285 * \text{WSPS} + 0.554 * \text{F\_YR}$$

The R<sup>2</sup> between ADJ and ADJ\_OBJ was about 0.29. I'm sure there are much better formulas but this seems to be OK for a rough estimate. Now I was able to calculate James' subjective judgments as

$$ADJ\_SUBJ = \text{VALUE} - \text{OBJ} - ADJ\_OBJ$$

Table 2 contains the 40 largest positive and negative subjective adjustments. Ward,

Gleason, Caruthers, and Smith have large negative ADJ\_SUBJ that are probably results from having pitched significant innings in the 1800's, which would have been addressed in the ADJ\_OBJ if their primary position had been P. Kauff starred in and had his best years in the Federal League, which James has attempted to prove was at best a marginal Major League. Tenace, Tettleton, and Ferguson are all mentioned in Tenace's Player Comment Section as having a lot of their theoretical value in walks, which probably resulted in less than average run contribution for these slow catchers. Darren Daulton was also mentioned in the same comment and he had a subjective adjustment of -7.3.

Table 2. 40 Largest Positive and Negative ADJ\_SUBJ

Name	Pos	ADJ_SUBJ	Rnk
John Ward	SS	-44	37
Kid Gleason	2B	-31	72
Benny Kauff	CF	-28	94
Bob Caruthers	P	-26	88
Elmer Smith	LF	-25	75
Gene Tenace	C	-20	23
Johnny Romano	C	-18	73
Mickey Tettleton	C	-18	37
Dick Allen	1B	-17	15
Joe Ferguson	C	-17	79
John Clarkson	P	-17	42
Carlos Baerga	2B	-17	93
Ripper Collins	1B	-16	100
Julio Franco	SS	-15	48
Bobby Bonilla	3B	-15	41
Gary Sheffield	RF	-14	54
Eddie Joost	SS	-14	56
Ezra Sutton	3B	-14	98
Pinky Whitney	3B	-14	93
Bill Madlock	3B	-13	48
Fred Dunlap	2B	-13	89
Earl Battey	C	-13	50
Bucky Walters	P	-12	69
Jim Ray Hart	3B	-12	74
Howard Johnson	3B	-12	47
Will Clark	1B	-12	14
Stan Lopata	C	-12	92
Sherm Lollar	C	-12	31
Hal Newhouser	P	-11	36
Jim Gentile	1B	-11	94
Don Mincher	1B	-11	97
Jeff Kent	2B	-11	48
Juan Samuel	2B	-11	78
John Olerud	1B	-11	53

Name	Pos	ADJ_SUBJ	Rnk
Jackie Robinson	2B	20.7	4
Derek Jeter	SS	16.8	18
Warren Spahn	P	14.9	5
Luis Aparicio	SS	14.7	13
Minnie Minoso	LF	14.7	10
Jim Tabor	3B	13.5	83
Jimmy Austin	3B	13.0	85
Joe Dugan	3B	12.9	88
Terry Moore	CF	12.9	60
Cy Young	P	12.7	4
Gavvy Cravath	RF	12.7	29
Sandy Koufax	P	12.7	10
Nomar Garciaparra	SS	12.2	19
Lave Cross	3B	12.0	33
Pete Reiser	CF	11.6	46
Sam Chapman	CF	11.5	65
Lefty Grove	P	11.4	2
Cap Anson	1B	11.3	11
Manny Trillo	2B	11.2	49
Hoyt Wilhelm	P	10.9	27
Enos Slaughter	RF	10.6	12
Wilbert Robinson	C	10.5	86
Ned Williamson	3B	10.3	45
Kirby Puckett	CF	10.1	8
Willie Mays	CF	9.9	1
Luke Sewell	C	9.9	59
Birdie Tebbetts	C	9.9	64
Don Newcombe	P	9.9	46
Ed McKean	SS	9.8	66
Whitey Ford	P	9.7	22
Roy McMillan	SS	9.7	55
Gus Bell	CF	9.6	58
Larry Bowa	SS	9.4	46
Pie Traynor	3B	9.3	15

Manny Sanguillen	C	-11	42
Darryl Strawberry	RF	-11	47
Jason Thompson	1B	-11	91
Delino DeShields	2B	-11	74
Jim Sundberg	C	-10	32
Tom Haller	C	-10	26

Gary Gaetti	3B	9.2	34
Virgil Trucks	P	9.1	61
Mark Belanger	SS	9.1	54
Roy Campanella	C	9.1	3
Bob Gibson	P	9.1	8
Frank Malzone	3B	9.0	59

James has claimed Allen cost his team more games than anybody in history. Dick Allen is also in the category of recent players who either didn't fit at one position, played few full seasons, or was a questionable clubhouse presence. This list includes players like Allen, Sheffield, Bonilla, Franco, and perhaps Baerga, Howard Johnson, Will Clark, and Darryl Strawberry. Olerud might fit into the previously mentioned category of slow players receiving an abundance of walks.

On the positive adjustment side, he clearly does give credit to Jackie Robinson and Minnie Minoso. Jeter and Garciaparra are on the list because I decided to include them in the SS rankings below ARod. James was probably just listing them together since they are (were?) the Big 3 SS since he listed them there with "xx" instead of numbers next to their names. Their large positive adjustments probably just mean that they shouldn't be ranked so highly. James also gives Grove credit for his great seasons before he was allowed to pitch in the majors. Puckett also receives a large adjustment for either his glaucoma-shortened career, his WS performance, or for being a fan favorite.

Now that the subjective portion of the rankings has been estimated, what would the rankings look like if they contained only the objective portions (OBJ + ADJ\_OBJ)? Table 3 contains the player rankings with the top 20 at each position.

Table 3. Top 20 at Each Position by (OBJ+ADJ\_OBJ)

Name	Pos	OBJ+ADJ_OBJ	Rnk
Lou Gehrig	1B	157.8	1
Jimmie Foxx	1B	146.0	2
Dick Allen	1B	142.9	15
Willie McCovey	1B	140.0	9
Will Clark	1B	137.8	14
Mark McGwire	1B	135.0	3
Frank Thomas	1B	134.8	10
Jeff Bagwell	1B	134.2	4
Eddie Murray	1B	134.2	5
Harmon Killebrew	1B	133.3	7
Johnny Mize	1B	132.6	6
Dan Brubbers	1B	127.2	18
Tony Perez	1B	126.8	13

Roger Connor	1B	125.8	22
Keith Hernandez	1B	125.0	16
Hank Greenberg	1B	124.7	8
Norm Cash	1B	123.6	20
Orlando Cepeda	1B	122.9	17
Rafael Palmeiro	1B	122.4	19
Joe Morgan	2B	160.1	1
Eddie Collins	2B	158.4	2
Rogers Hornsby	2B	157.5	3
Nap Lajoie	2B	148.0	6
Rod Carew	2B	136.1	9
Ryne Sandberg	2B	134.3	7
Craig Biggio	2B	133.6	5
Charlie Gehringer	2B	132.9	8
Jackie Robinson	2B	130.0	4
Bobby Grich	2B	129.2	12
Frankie Frisch	2B	125.2	11
Roberto Alomar	2B	124.9	10
Lou Whitaker	2B	121.4	13
Billy Herman	2B	121.1	14
Willie Randolph	2B	118.1	17
Nellie Fox	2B	118.0	15
Larry Doyle	2B	116.6	20
Bobby Doerr	2B	115.6	18
Kid Gleason	2B	115.5	72
Joe Gordon	2B	112.5	16
Mike Schmidt	3B	151.3	1
Eddie Mathews	3B	147.1	3
George Brett	3B	141.1	2
Wade Boggs	3B	138.2	4
Frank Baker	3B	132.2	5
Ron Santo	3B	131.3	6
Paul Molitor	3B	131.0	8
Stan Hack	3B	126.1	9
Sal Bando	3B	123.3	11
Darrell Evans	3B	123.1	10
Brooks Robinson	3B	122.1	7
Al Rosen	3B	119.9	14
Heinie Groh	3B	118.8	21
Bobby Bonilla	3B	117.7	41
Ken Boyer	3B	117.6	12
Graig Nettles	3B	117.6	13
Ron Cey	3B	116.8	16
Edgar Martinez	3B	116.8	31
Bob Elliott	3B	116.5	18
Toby Harrah	3B	115.9	32
Honus Wagner	SS	176.2	1

John Ward	SS	147.0	37
Arky Vaughan	SS	140.4	2
Robin Yount	SS	137.6	4
Cal Ripken Jr.	SS	136.0	3
Luke Appling	SS	129.7	11
Barry Larkin	SS	127.2	6
Joe Cronin	SS	127.1	8
Ernie Banks	SS	124.9	5
Lou Boudreau	SS	122.8	12
Alan Trammell	SS	122.3	9
Pee Wee Reese	SS	120.9	10
George Davis	SS	120.8	14
Bill Dahlen	SS	120.2	23
Ozzie Smith	SS	119.6	7
Vern Stephens	SS	118.8	24
Jim Fregosi	SS	118.2	15
Alex Rodriguez	SS	115.0	17
Maury Wills	SS	114.1	21
Tony Fernandez	SS	113.5	26
Ted Williams	LF	173.7	1
Stan Musial	LF	165.7	2
Barry Bonds	LF	159.4	3
Rickey Henderson	LF	149.0	4
Carl Yastrzemski	LF	146.1	5
Tim Lincecum	LF	137.9	8
Willie Stargell	LF	133.4	9
Joe Jackson	LF	132.0	6
Al Simmons	LF	132.0	7
Billy Williams	LF	131.0	11
Ed Delahanty	LF	130.4	12
Joe Medwick	LF	129.8	13
Jesse Burkett	LF	129.7	14
Sherry Magee	LF	128.5	21
Frank Howard	LF	128.4	19
Goose Goslin	LF	125.5	16
Fred Clarke	LF	125.1	22
Lou Brock	LF	124.8	15
Ralph Kiner	LF	124.0	18
Zack Wheat	LF	123.9	23
Ty Cobb	CF	177.0	2
Mickey Mantle	CF	175.2	3
Willie Mays	CF	169.6	1
Tris Speaker	CF	169.3	4
Joe DiMaggio	CF	147.8	5
Duke Snider	CF	138.1	6
Ken Griffey Jr.	CF	128.4	7
Billy Hamilton	CF	128.3	9

Jimmy Wynn	CF	127.7	10
Larry Doby	CF	126.4	11
Cesar Cedeno	CF	124.4	21
Dale Murphy	CF	123.8	12
Richie Ashburn	CF	123.6	16
Kirby Puckett	CF	122.9	8
Vada Pinson	CF	122.5	18
Wally Berger	CF	121.5	13
Fred Lynn	CF	121.2	17
Edd Roush	CF	121.0	15
Earl Averill	CF	120.6	14
Amos Otis	CF	118.7	22
Babe Ruth	RF	194.6	1
Hank Aaron	RF	164.0	2
Mel Ott	RF	152.7	4
Frank Robinson	RF	152.2	3
Pete Rose	RF	147.5	5
Reggie Jackson	RF	139.8	7
Sam Crawford	RF	135.7	10
Tony Gwynn	RF	135.0	6
Paul Waner	RF	134.9	9
Al Kaline	RF	133.6	11
Roberto Clemente	RF	131.7	8
Dave Winfield	RF	131.0	13
Harry Heilmann	RF	128.2	16
Dave Parker	RF	128.2	14
Bobby Bonds	RF	128.0	15
Ken Singleton	RF	127.8	18
Rusty Staub	RF	126.1	24
Reggie Smith	RF	125.3	20
Jack Clark	RF	124.5	27
Bobby Murcer	RF	124.4	17
Yogi Berra	C	135.8	1
Johnny Bench	C	135.6	2
Mike Piazza	C	129.6	5
Gary Carter	C	128.3	8
Carlton Fisk	C	124.4	6
Bill Dickey	C	123.7	7
Joe Torre	C	123.5	11
Mickey Cochrane	C	121.6	4
Ted Simmons	C	120.0	10
Bill Freehan	C	119.0	12
Gabby Hartnett	C	116.5	9
Roy Campanella	C	116.4	3
Gene Tenace	C	114.3	23
Elston Howard	C	107.4	15
Thurman Munson	C	107.4	14

Ivan Rodriguez	C	106.7	13
Lance Parrish	C	106.2	19
Roger Bresnahan	C	105.5	16
Darrell Porter	C	104.5	18
Buck Ewing	C	103.4	17
Walter Johnson	P	167.4	1
Pete Alexander	P	153.2	3
Lefty Grove	P	145.7	2
Cy Young	P	140.8	4
Kid Nichols	P	139.0	9
Tom Seaver	P	138.7	6
Christy Mathewson	P	137.5	7
John Clarkson	P	134.0	42
Roger Clemens	P	133.4	11
Bob Gibson	P	132.8	8
Bob Caruthers	P	132.5	88
Robin Roberts	P	131.9	16
Warren Spahn	P	131.9	5
Hal Newhouser	P	131.8	36
Carl Hubbell	P	131.3	13
Gaylord Perry	P	131.2	18
Ed Walsh	P	130.5	19
Greg Maddux	P	129.7	14
Bob Feller	P	128.5	12
Jim Palmer	P	128.1	17

I also compiled the list of the top 100 players by (OBJ+ADJ\_OBJ), which is given in Table 4.

Table 4. Overall Top 100 by Objective Criteria

Name	Pos	OBJ+ADJ_OBJ
Babe Ruth	RF	194.6
Ty Cobb	CF	177.0
Honus Wagner	SS	176.2
Mickey Mantle	CF	175.2
Ted Williams	LF	173.7
Willie Mays	CF	169.6
Tris Speaker	CF	169.3
Walter Johnson	P	167.4
Stan Musial	LF	165.7
Hank Aaron	RF	164.0
Joe Morgan	2B	160.1
Barry Bonds	LF	159.4
Eddie Collins	2B	158.4
Lou Gehrig	1B	157.8
Rogers Hornsby	2B	157.5

Pete Alexander	P	153.2
Mel Ott	RF	152.7
Frank Robinson	RF	152.2
Mike Schmidt	3B	151.3
Rickey Henderson	LF	149.0
Nap Lajoie	2B	148.0
Joe DiMaggio	CF	147.8
Pete Rose	RF	147.5
Eddie Mathews	3B	147.1
John Ward	SS	147.0
Carl Yastrzemski	LF	146.1
Jimmie Foxx	1B	146.0
Lefty Grove	P	145.7
Dick Allen	1B	142.9
George Brett	3B	141.1
Cy Young	P	140.8
Arky Vaughan	SS	140.4
Willie McCovey	1B	140.0
Reggie Jackson	RF	139.8
Kid Nichols	P	139.0
Tom Seaver	P	138.7
Wade Boggs	3B	138.2
Duke Snider	CF	138.1
Tim Lincecum	LF	137.9
Will Clark	1B	137.8
Robin Yount	SS	137.6
Christy Mathewson	P	137.5
Rod Carew	2B	136.1
Cal Ripken Jr.	SS	136.0
Yogi Berra	C	135.8
Sam Crawford	RF	135.7
Johnny Bench	C	135.6
Tony Gwynn	RF	135.0
Mark McGwire	1B	135.0
Paul Waner	RF	134.9
Frank Thomas	1B	134.8
Ryne Sandberg	2B	134.3
Jeff Bagwell	1B	134.2
Eddie Murray	1B	134.2
John Clarkson	P	134.0
Craig Biggio	2B	133.6
Al Kaline	RF	133.6
Willie Stargell	LF	133.4
Roger Clemens	P	133.4
Harmon Killebrew	1B	133.3
Charlie Gehringer	2B	132.9
Bob Gibson	P	132.8
Johnny Mize	1B	132.6

Bob Caruthers	P	132.5
Frank Baker	3B	132.2
Joe Jackson	LF	132.0
Al Simmons	LF	132.0
Robin Roberts	P	131.9
Warren Spahn	P	131.9
Hal Newhouser	P	131.8
Roberto Clemente	RF	131.7
Carl Hubbell	P	131.3
Ron Santo	3B	131.3
Gaylord Perry	P	131.2
Dave Winfield	RF	131.0
Billy Williams	LF	131.0
Paul Molitor	3B	131.0
Ed Walsh	P	130.5
Ed Delahanty	LF	130.4
Jackie Robinson	2B	130.0
Joe Medwick	LF	129.8
Jesse Burkett	LF	129.7
Luke Appling	SS	129.7
Greg Maddux	P	129.7
Mike Piazza	C	129.6
Bobby Grich	2B	129.2
Sherry Magee	LF	128.5
Bob Feller	P	128.5
Frank Howard	LF	128.4
Ken Griffey Jr.	CF	128.4
Billy Hamilton	CF	128.3
Gary Carter	C	128.3
Harry Heilmann	RF	128.2
Dave Parker	RF	128.2
Jim Palmer	P	128.1
Fergie Jenkins	P	128.0
Bobby Bonds	RF	128.0
Ken Singleton	RF	127.8
Jimmy Wynn	CF	127.7
Phil Niekro	P	127.7

You most certainly will disagree with some (many) of the objective positional (and top 100) rankings that were presented in this article. I don't believe James' objective criteria was very good, even with the subsequent "objective" adjustments using the input factors. The input factors don't seem to be enough to capture the overall quality of the players' careers. It appears to me that the objective criteria is still too heavily weighted on peak performance. Two non-HOFer players who appear much higher (top 5) on the positional rankings without the subjective adjustments are Dick Allen and Will Clark.