

FIELDER "RANGE" RATINGS: 1950-2010 DERIVED FROM RETROSHEET EVENT FILES

Howard L. Johnson oldwx@yahoo.com

Definition: fielder range (FR) - The ability of a defensive baseball player to turn batted balls into outs. Fielder range may be affected by (1) the fielder's ability to reach balls hit somewhat distant from his starting position, (2) pre-pitch positioning which can reduce (or increase) the distance he needs to travel to reach a batted ball, (3) the ability to actually catch or field the ball once it is reached, and (4) in the case of ball not caught on the fly, the ability and knowledge to make an accurate throw to the correct base to record an out (provided the guy on the other end catches the ball and completes the putout).

Several measures have been introduced since the advent of the "sabermetrics" era to quantify range, a concept not considered measurable (though subjectively observable) baseball's past. The original *MacMillan Baseball Encyclopedia* (1969) introduced the concept of "total chances per game." An obvious corollary to that concept was "chances accepted per game" which eliminated credit for an error from an otherwise positive statistic. Both configurations were prejudicial against the late-inning defensive specialist and, furthermore, did not separate fielding plays from "passive" putouts such as those credited to a firstbaseman for taking a throw from an infielder on a routine ground ball. Subsequent refinements have included (a) variations of a "zone rating" (developed within the framework of Stats, Inc.'s heightened observation program in the mid-80s, results published annually in their *Baseball Scoreboard*) which is the ratio of plays made to the number of batted balls entering a narrowly defined positional zone and (b) John Dewan's "+/-" system (*The Fielding Bible*) which presents a measurement of "good play vs. bad play." All of these methods are pertinent (and valuable) to the evaluation of modern players. Of course, one must never forget the invaluable contributions of Bill James, whose introduction of the team-based Defense Efficiency Ratio in one of his early *Baseball Abstracts* inspired lots of us to think more quantitatively about defensive play. Those methods are not so useful for a retrospective evaluation of the individual players of the past; those who played pre-videotape, Project Scoresheet, and pre-Stats, Inc. Some of us older folks would like to be able to make such evaluations, and maybe we can, thanks to the people at www.retrosheet.com and, subsequently, the public availability of play-by-play data from most of the post-World War II era

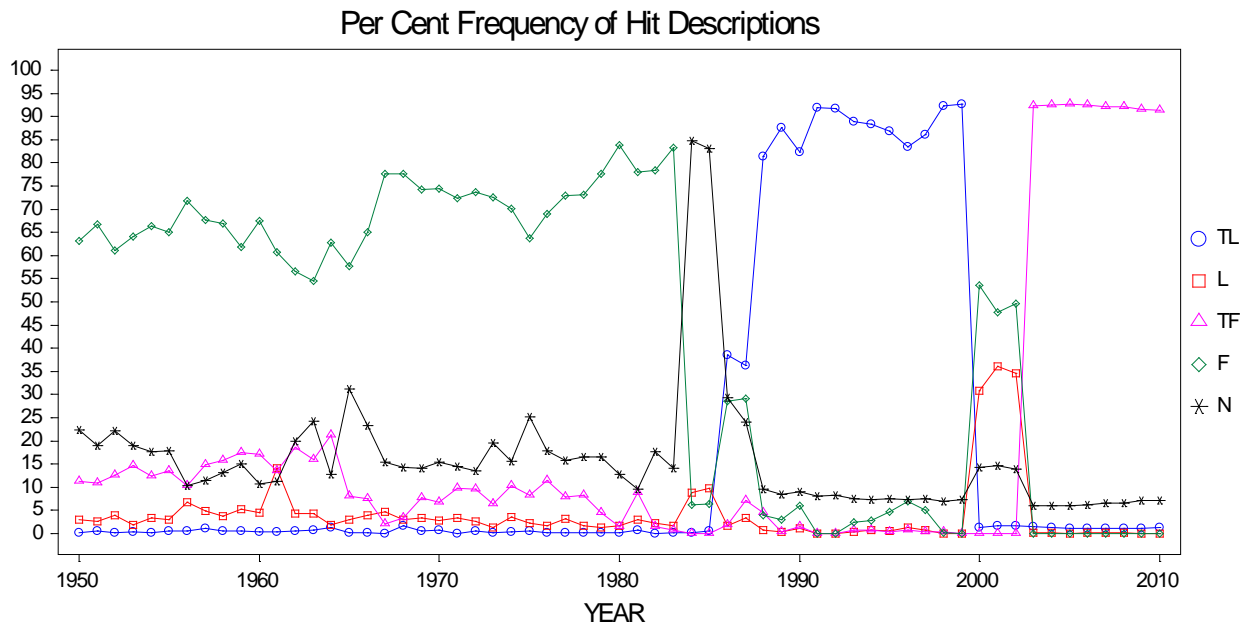
Historically, objective characterizations of fielders' range are difficult as traditional fielding summaries were not designed to measure the concept. With the advent of "Retrosheet" and the publication of computer readable play-by-play accounts of Major League games (presently encompassing 1950 through 2010) it has become possible to achieve at least a glimpse of individual fielding ranges over a sizable period of time. This paper is an effort to quantify this vital fielding skill and, hence, provide such a glimpse.

Fielding range (FR) is constructed from the ratio of outs recorded by an individual player (first fielder assists and outs) at a single position (plays made) to the sum of his opportunities to record those outs ("plays made" plus "plays not made"). Through Retrosheet's event files, we are able to determine (1) when the fielder was actually in the game, (2) the result of the play, and (3) in many cases, where on the field a play was made and how the ball reached that location. Since the play-by-play data were gathered from multiple sources and in some cases after many years had elapsed, some entire games are missing from the data base. In other cases, the scoring for particular plays is not known. In many other cases, little or nothing is known about the placement of a hit, although its value is, of course, recorded. Such is

unavoidable. I am extremely appreciative of the data that is available, and through some numerical legerdemain, I will proceed as though it were a perfect world.

“Plays made” is the easy part of the calculations. The first fielder to touch a batted ball on which the batter or a preceding runner is retired without a hit or an error being recorded is credited with making a play. This is a bit unfair to fielders who complete a play after retrieving a carom off a teammate, but those cases are relatively rare and we will suffer the injustice for now. Determining opportunities in addition to plays made is a bit more complex. These opportunities include (1) an error by the fielder, (2) a fielder’s choice (started by the player fielding the ball) with no runner retired, and (3) a hit that is judged to be in the fielder’s purview. The first two cases are straightforward. The third category requires some thought.

The Retrosheet event files, when complete, contain the following information, in addition to the official scoring: (1) type of batted ball (fly ball, grounder, line drive, popup) as determined by the reporter, (2) the location of the play or a ground ball hit’s departure from the infield (68 “zones” that cover the entire playing field, including foul ground), and (3) the official position of the player who actually fields the ball. No consideration is given to non-traditional alignments such as extreme shifts or so-called “fifth infielder” situations. Batted balls high off an outfield fence (over the outfielder’s head) are not delineated in the play-by-play event files and are, therefore, considered to be fielding opportunities, to the detriment of outfielders in parks with such outfield fences such as Fenway Park, Ebbets Field, St. Louis’s old Sportsman’s Park, and the Los Angeles Coliseum) Location and type specifications can be found on the Retrosheet website at <http://www.retrosheet.org/location.htm>. The availability of this information in the play-by-play descriptions varies greatly from year-to-year and even within individual games, depending on the source. The graph below depicts time series of the per cent of occurrence of the various combinations of type, location, and ultimate fielder of in-play hits within the Retrosheet database. The categories are non-overlapping with each hit placed in the category which describes it best.



TL=Type and Location known; L=Location known; TF=Type and Fielder known; F=Fielder only known; and N=type, location, and fielder all unknown.

The “golden age” of play descriptions comprises the period 1986-1999. That period was used to define a basic “fielder accountability” chart used in this study. Data for the estimates of frequency distributions of fielding opportunities when full type and location data were not known were drawn from that era.

Assignment of Opportunities

The basic philosophy applied in constructing this study is that if a fielder made a play on the ball which is not scored as a hit, whether an out was made, an error was committed, or a fielder’s choice ensued, that fielder alone was responsible. If the result was a hit, then all players with a reasonable chance to make a play, based on the frequencies observed during the “golden age” or the necessary passage of the ball through his natural range, were held responsible. The assignment criteria were applied in the order they are listed below. The first criterion met by in the event file was selected for each event. The criteria take into account the handedness of the batter.

- (1) TL (Table 1): An opportunity was assigned to a fielder if players at that position handled a “reasonable” percentage of the successful plays (outs) recorded in or from that location for the type of batted ball (based on the author’s judgment as to what constitutes “reasonable”). Pitchers were assessed an opportunity for ground balls and line drives hit “up the middle” except for line drives that landed in the outfield, past the range of the shortstop or secondbaseman (past regions 4M and 6M). Assignment of full responsibility for certain hits to multiple fielders echoes the concept of the “team error” for hits that should have been fielded by any of two or more fielders.
- (2) L: The “type” assignments of Table 1 were simply merged, weighted for ground ball frequency.
- (3) TF: The fielder was assessed an opportunity, except that ground balls ultimately fielded by outfielders were assigned instead to the infielders the ball likely passed (3B and SS on grounders to left; P, SS and 2B on grounders to center; 2B and 1B on ground balls to right) with the outfielder held blameless. Firstbasemen and thirdbasemen were assessed an opportunity on all bunt hits fielded on their respective sides of the infield. Pitchers and catchers were assessed an opportunity on any bunt hit fielded by each other or a corner infielder. If the fielder of a bunt hit (or unsuccessful sacrifice bunt/fielder’s choice) was not specified P, C, 1B, and 3B were each assessed an opportunity.
- (4) F: Plays were assigned to the players as in (3) above, except to include the possibility of any type of batted ball. Compensation was made for the statistical frequency of ground ball hits (approximately 44% during 1986-1999).
- (5) N: A frequency table was developed (Table 2) for the location of the three values of “in play” hits (inside the park homeruns being lumped in with the triples) separately for batters hitting left or right handed. Partial opportunities were for each hit based on the frequency such hits landing in or passing through each fielder’s zones of responsibility taken from Table 1.

Seasonal Results

FR rankings for individual seasons for all players at each of the nine positions were compiled using the available games, omitting any half innings in which the scoring for more than one batted ball out was missing. The individual FR’s were then turned into an “FR-score” by dividing the FR by that league’s positional composite FR for that season. An FR-score of 1.0 is therefore an average performance during

that season in that league. For display purposes (and subsequent career compilations), plays and opportunities for players whose full season is not presently available are extrapolated to encompass that player's full season. League leaderships were determined by an FR-score carried out to 4 decimal digits (a precision not mathematically justified, but we aren't designing space craft here – the author hates ties of all kinds or stripes). To be eligible for league leadership, the “fair territory” players other than pitchers had to either handle (pro-rated) at least the one-half the league average number of plays (by team) at that position or play at least one-half of the league average team innings. Catchers were required to attain .45 of the league average values and pitchers one-eighth of the league's team-average plays made or innings. Players leading each league three or more times were (3 unless specified otherwise):

American League

P Dan Quisenberry (4), Kenny Rogers, Bill Swift, Dan Tewksberry

C Carlton Fisk (5), Elston Howard (4)

1B Vic Power (5), Rod Carew, Joe Pepitone, Mark Teixeira

2B Frank White (8), Horace Clarke (6), Orlando Hudson (4), Lou Whitaker (4), Damion Easley, Nellie Fox, Bobby Grich, Bobby Richardson

3B Buddy Bell (6), Clete Boyer (6), Brooks Robinson (6), Jerry Kenney

SS Mark Belanger (7), Tony Kubek (6), Robin Yount (4), Cal Ripken

LF Roy White (7), Rickey Henderson (5), Marty Cordova, Carl Crawford

CF Jim Busby, Mickey Rivers

RF Tony Oliva (4), Ichiro Suzuki (4), Al Kaline, Joe Orsulak

National League

P Kirk Reuter (4), Lew Burdette, Randy Jones, Frank Linzy

C Johnny Bench (6), Tom Haller (4), Roy Campanella(4), Gary Carter, Jason LaRue

1B Gil Hodges (9), Mark Grace (4), Albert Pujols (4), Ernie Banks, Keith Hernandez, Travis Lee, Bill White

2B Jim Gilliam (5), Joe Morgan (4), Jose Lind, Pokey Reese, Jackie Robinson, Manny Trillo, Eric Young

3B Ron Santo (8), Terry Pendleton (5), Scott Rolen (4), Billy Cox, Darrell Evans, Willie Jones, Ken Oberkfell, Placido Polanco, Matt Williams

SS Ozzie Smith (10), Pee Wee Reese (7), Dave Concepcion (6), Jay Bell

LF Barry Bonds (7), Lou Brock, Monte Irvin

CF Richie Ashburn (7), Curt Flood (4), Willie Davis, Andruw Jones

RF Tony Gwynn (4), Brian Jordan (4), Roberto Clemente, Austin Kearns

Few of the names on the “frequent winners” list will be surprises to the serious baseball fan. Names missing from the list may cause the raising of some eyebrows, however. Whether it be a pattern of excellence, the influence of a band-box ball park with high fences, an artifact of statistical perversity, a ground ball oriented pitching staff, or a result of Alan Roth's meticulous record-keeping, Brooklyn Dodger infielders (Hodges, Reese, Robinson/Gilliam, and Cox along with a multitude of other thirdbasemen) completely dominate the rankings during the Dodgers' final few years in Brooklyn. Giants and Phillies outfielders rank especially well in the NL rankings through that same period. The Yankees' infield (Boyer, Kubek, and Richardson) similarly dominates the AL rankings through the mid-1960s. Other “side-by-side” stalwarts of note include the Orioles' SS Mark Belanger and 3B Brooks Robinson and the Cardinals' left-side duo of Ozzie Smith and Terry Pendleton. Overall, the leadership boards look quite reasonable, especially when one factors in runner-up finishes. For example, Brooks Robinson added 6 second place finishes to his 6 firsts, thus accounting for 12 seasons during his stellar career. Several other players also finished in either of the top 2 spots at their positions 10 times or more, led by P Greg Maddux (14) with 2 firsts and 12 second place finishes. Other “double-digit” top-2 performers were 3B Ron Santo (12), SS Ozzie Smith (12), and 2B Frank White (10).

Career Leaders and Trailers

Career FR and FR-scores were attained by averaging each player's seasonal results weighted by playing time (expressed as “outs”). Below are listings of top and bottom 20 long-term performers at each position. Inclusion in the compilations requires amassing the equivalent of 8 seasons of minimal qualification for annual rankings as described above or, additionally, opportunities amounting to 50% (infielders), 45% (catchers and outfielders), or 12.5% (pitchers) of the average opportunities at that position – with a little leeway given to left- and rightfield to get the number of qualifiers at those positions into the 100s.

Obviously, an every-day player or rotation starter can meet these criteria in much less than an eight season span. In the listings below, OPP denotes the estimated number of opportunities and PM is the number of plays made. Because the procedures outlined above can yield fractional “plays made” and “opportunities,” those totals are not necessarily integers. Rounding was done for display purposes after all calculations were complete. Therefore the FR presented may differ slightly from the PM to OPP ratio using the values displayed in the listings. The “outs” column holds the number one-third innings (outs) played at that position over each player’s career from 1950 forward as obtained from the Retrosheet web site.

Pitchers: Qualification criteria were met by 488 pitchers.

Leaders	FR-score	FR	OPP	PM	outs	rank	career span
Quisenberry, Dan	1.7549	0.5469	509.	279.	3130.	1	1979 1990
Rueter, Kirk	1.5955	0.5627	776.	437.	5754.	2	1993 2005
Tewksbury, Bob	1.5903	0.5827	629.	364.	5421.	3	1986 1998
Cook, Aaron	1.5441	0.5557	455.	252.	3646.	4	2002 2010
Burgmeier, Tom	1.5412	0.4901	665.	326.	3776.	5	1968 1984
Westbrook, Jake	1.5041	0.5165	521.	270.	3819.	6	2000 2010
Linzy, Frank	1.4898	0.4867	499.	245.	2452.	7	1963 1974
Jones, Randy	1.4881	0.4888	943.	457.	5799.	8	1973 1982
Anderson, Brian J.	1.4746	0.5046	514.	261.	4641.	9	1993 2005
Maddux, Greg	1.4721	0.5370	2302.	1231.	15025.	10	1986 2008
Stottlemire, Mel	1.4520	0.4710	1313.	620.	7984.	11	1964 1974
Sparks, Steve L.	1.4344	0.4815	540.	260.	3959.	12	1995 2004
Rogers, Kenny	1.4221	0.4876	1452.	714.	9908.	13	1989 2008
Buehrle, Mark	1.4075	0.4669	796.	373.	6814.	14	2000 2010
Caldwell, Mike	1.4050	0.4450	1137.	505.	7226.	15	1971 1984
McDowell, Roger	1.3993	0.5063	516.	262.	3150.	16	1985 1996
Fitzmorris, Al	1.3925	0.4422	570.	251.	3831.	17	1969 1978
Minton, Greg	1.3901	0.4444	616.	272.	3392.	18	1975 1990
Swift, Bill C.	1.3887	0.5076	654.	329.	4799.	19	1985 1998
Carroll, Clay	1.3676	0.4436	730.	323.	4060.	20	1964 1978
Trailers							
Righetti, Dave	0.7229	0.2352	611.	141.	4211.	469	1979 1995
Lolich, Mickey	0.7227	0.2324	1624.	377.	10915.	470	1963 1979
Richard, J.R.	0.7191	0.2359	881.	210.	4818.	471	1971 1980
McDowell, Sam	0.7187	0.2326	1467.	340.	7477.	472	1961 1975
Cone, David	0.7120	0.2582	1058.	272.	8696.	473	1986 2003
Finley, Chuck	0.7064	0.2464	1228.	302.	9592.	474	1986 2002
Escobar, Kelvin	0.7005	0.2379	536.	125.	4521.	475	1997 2009
Bunning, Jim	0.6942	0.2354	1570.	370.	11279.	476	1955 1971
Jones, Sam	0.6843	0.2461	854.	207.	4930.	477	1951 1964
Guzman, Juan	0.6777	0.2421	528.	127.	4450.	478	1991 2000
Martinez, Pedro J.	0.6730	0.2343	1088.	252.	8482.	479	1992 2009
Nomo, Hideo	0.6716	0.2334	787.	184.	5929.	480	1995 2008
Gossage, Goose	0.6694	0.2168	840.	179.	5428.	481	1972 1994
Schmidt, Jason	0.6683	0.2402	708.	167.	5989.	482	1995 2009
Falcone, Pete	0.6603	0.2103	645.	137.	4306.	483	1975 1984
Johnson, Randy D.	0.6444	0.2279	1759.	396.	12406.	484	1988 2009
Koufax, Sandy	0.6355	0.2301	1021.	231.	6973.	485	1955 1966
DeLeon, Jose	0.6313	0.2225	757.	163.	5692.	486	1983 1995
Fernandez, Sid	0.6075	0.2203	689.	151.	5600.	487	1983 1997
Ryan, Nolan	0.5335	0.1746	2898.	503.	16158.	488	1966 1993

Clearly, and as one would suspect, so-called “ground ball” pitchers dominate the top of the pitching chart and power pitchers dominate the trailing group.

Catchers: Qualification criteria were met by 168 players

Leaders

Larue, Jason	1.0867	0.8312	379.	317.	20541.	1	1999	2010
Gibbs, Jake	1.0780	0.8737	308.	268.	11462.	2	1964	1971
Bench, Johnny	1.0664	0.8584	1113.	959.	43464.	3	1967	1983
Surhoff, B.J.	1.0646	0.8116	318.	259.	17509.	4	1987	1995
Campanella, Roy	1.0519	0.8943	826.	741.	25035.	5	1950	1957
Dempsey, Rick	1.0519	0.8186	770.	637.	36973.	6	1969	1992
Myers, Greg	1.0516	0.7915	298.	239.	19181.	7	1987	2004
Howard, Elston	1.0503	0.8674	765.	668.	28607.	8	1955	1968
Haller, Tom	1.0470	0.8568	753.	646.	28999.	9	1961	1972
Matheny, Mike	1.0467	0.7922	489.	387.	30158.	10	1994	2006
Martinez, Buck	1.0458	0.8215	426.	350.	22027.	11	1969	1986
Fisk, Carlton	1.0455	0.8150	1137.	937.	55508.	12	1971	1993
Hoiles, Chris	1.0451	0.7806	305.	239.	20298.	13	1989	1998
Heath, Mike	1.0449	0.7985	560.	447.	25126.	14	1978	1991
Hendricks, Ellie	1.0439	0.8399	287.	241.	13649.	15	1968	1978
Mauer, Joe	1.0387	0.7674	233.	180.	18562.	16	2004	2010
Smith, Hal R.	1.0378	0.8743	392.	345.	12698.	17	1956	1961
Astroth, Joe	1.0370	0.8826	403.	357.	11036.	18	1950	1956
Etchebarren, Andy	1.0357	0.8314	456.	382.	20905.	19	1962	1978
Sundberg, Jim	1.0353	0.8097	971.	788.	47701.	20	1974	1989

Trailers

Lieberthal, Mike	0.9620	0.7299	449.	328.	29486.	149	1994	2007
Boone, Bob	0.9600	0.7478	960.	722.	55378.	150	1972	1990
Diaz, Einar	0.9587	0.7334	231.	171.	15530.	151	1997	2005
Fitz Gerald, Ed	0.9576	0.8226	338.	282.	11168.	152	1950	1959
Courtney, Clint	0.9571	0.8188	524.	432.	19159.	153	1952	1961
Barrett, Michael	0.9532	0.7338	324.	239.	21739.	154	1999	2008
Wynegar, Butch	0.9523	0.7420	511.	381.	31563.	155	1976	1988
Redmond, Mike	0.9520	0.7186	214.	156.	16088.	156	1998	2010
Borders, Pat	0.9518	0.7208	349.	254.	23037.	157	1988	2005
Fletcher, Darrin	0.9473	0.7166	361.	263.	26577.	158	1989	2002
Fitzgerald, Mike R.	0.9461	0.7200	256.	185.	17176.	159	1983	1992
Steinbach, Terry	0.9451	0.7096	434.	309.	34009.	160	1986	1999
Hassey, Ron	0.9448	0.7305	355.	261.	22269.	161	1978	1991
Davis, Jody	0.9431	0.7229	452.	330.	25688.	162	1981	1990
Blanco, Henry	0.9412	0.7184	259.	189.	18906.	163	1999	2010
Reed, Jeff	0.9263	0.7090	343.	250.	23063.	164	1984	2000
Pagliaroni, Jim	0.9194	0.7610	403.	310.	18331.	165	1955	1969
Gedman, Rich	0.9177	0.6948	344.	244.	22779.	166	1981	1992
Bako, Paul	0.9156	0.6896	229.	161.	17251.	167	1998	2009
Walbeck, Matt	0.9111	0.6776	176.	121.	15230.	168	1993	2003

Typically, analysts ignore the catching position when discussing range, partly because it is overshadowed by other parts of the receiver's duties and partly because the numbers are overwhelmed by putouts credited to the catcher on strikeouts and assists accumulated on unsuccessful steal attempts. The declining use of the sacrifice in the homer-happy present day game has significantly reduced the number of opportunities for catchers to get out from behind the plate to field bunts.

Firstbasemen: Qualification criteria were met by 125 players.

Leaders

Hodges, Gil	1.1216	0.5941	5205.	3103.	40422.	1	1950	1963
Pujols, Albert	1.0988	0.5937	4135.	2455.	30118.	2	2001	2010
Yastrzemski, Carl	1.0851	0.5460	2881.	1575.	19284.	3	1968	1983
Lee, Travis	1.0808	0.5651	3555.	2006.	24875.	4	1998	2006
Pepitone, Joe	1.0772	0.5367	3286.	1762.	23632.	5	1962	1973

Power, Vic	1.0762	0.5553	4780.	2656.	31095.	6	1954	1965
McCraw, Tom	1.0708	0.5350	2659.	1422.	18272.	7	1963	1975
Evans, Darrell	1.0655	0.5470	3187.	1733.	20231.	8	1973	1989
Mientkiewicz, Doug	1.0633	0.5661	3064.	1732.	22906.	9	1998	2009
Parker, Wes	1.0604	0.5290	3749.	1987.	27629.	10	1964	1972
Banks, Ernie	1.0568	0.5402	4390.	2376.	32384.	11	1961	1971
Hernandez, Keith	1.0561	0.5335	7845.	4169.	51839.	12	1974	1990
Scott, George C.	1.0483	0.5283	7330.	3866.	45570.	13	1966	1979
Bream, Sid	1.0449	0.5773	3107.	1784.	21957.	14	1983	1994
Garvey, Steve	1.0412	0.5181	7611.	3942.	53896.	15	1972	1987
Teixeira, Mark	1.0408	0.5747	4092.	2356.	29823.	16	2003	2010
Walker, Greg	1.0402	0.5327	2315.	1228.	17184.	17	1983	1990
Grace, Mark	1.0393	0.5688	8058.	4590.	55758.	18	1988	2003
Johnson, Nick	1.0392	0.5625	2337.	1315.	16581.	19	2001	2010
Helton, Todd	1.0387	0.5449	6779.	3689.	48308.	20	1997	2010

Trailers

Montanez, Willie	0.9551	0.4823	4449.	2147.	29841.	106	1966	1982
Durham, Leon	0.9540	0.4667	2438.	1132.	15021.	107	1980	1989
Fielder, Prince	0.9537	0.5140	2658.	1366.	20751.	108	2005	2010
Robinson, Eddie	0.9537	0.4921	2636.	1300.	19470.	109	1950	1957
Long, Dale	0.9534	0.5029	3114.	1562.	20660.	110	1951	1963
Watson, Bob	0.9521	0.4790	3880.	1865.	25908.	111	1967	1984
Thome, Jim	0.9510	0.4957	3925.	1933.	28537.	112	1997	2007
Johnson, Deron	0.9481	0.4811	2726.	1312.	20111.	113	1961	1976
McGriff, Fred	0.9476	0.5183	7346.	3781.	58206.	114	1986	2004
Kluszewski, Ted	0.9467	0.4992	4395.	2193.	32080.	115	1950	1961
Rose, Pete	0.9462	0.4697	3284.	1539.	23568.	116	1978	1986
Stargell, Willie	0.9450	0.4790	2809.	1347.	21082.	117	1963	1982
Colbert, Nate	0.9442	0.4660	3490.	1627.	22672.	118	1968	1976
Allen, Dick	0.9404	0.4728	2764.	1305.	20062.	119	1969	1977
Gentile, Jim	0.9389	0.4739	2929.	1385.	21143.	120	1957	1966
Mayberry, John	0.9340	0.4711	5396.	2547.	37652.	121	1968	1982
Vaughn, Mo	0.9279	0.4934	4350.	2140.	33608.	122	1991	2003
Thomas, Frank E.	0.9128	0.5069	3084.	1563.	25150.	123	1990	2004
Stuart, Dick	0.9112	0.4668	3749.	1745.	25966.	124	1958	1969
Epstein, Mike	0.9104	0.4589	2725.	1250.	20626.	125	1966	1974

Save for Carl Yastrzemski, remembered mainly as a leftfielder, the top 20 firstbasemen are pretty much people one would expect to be on such a list. Save for Willie Montanez, the "Trailers" also hold no surprises. Of course, it should be noted that Pete Rose became a firstbaseman at the tender age of 38.

Secondbasemen: Qualification criteria were met by 116 players.

Leaders

Clarke, Horace	1.1460	0.4494	8134.	3646.	28556.	1	1965	1974
Gilliam, Jim	1.1236	0.4785	6467.	3089.	25876.	2	1953	1965
White, Frank	1.1100	0.4627	15675.	7217.	53425.	3	1973	1990
Hudson, Orlando	1.0797	0.4978	7841.	3905.	28698.	4	2002	2010
Beckert, Glenn	1.0724	0.4243	9708.	4107.	32500.	5	1965	1974
Lind, Jose	1.0708	0.5055	6927.	3502.	26703.	6	1987	1995
Knoop, Bobby	1.0697	0.4145	8857.	3670.	27884.	7	1964	1972
Trillo, Manny	1.0649	0.4349	11848.	5088.	38393.	8	1973	1989
Ripken, Billy	1.0582	0.5034	4652.	2329.	18508.	9	1987	1998
Giles, Marcus	1.0554	0.4792	5034.	2409.	18956.	10	2001	2007
Cruz, Julio	1.0518	0.4244	8781.	3719.	28228.	11	1977	1986
Grich, Bobby	1.0514	0.4210	13944.	5842.	45466.	12	1970	1986
Richardson, Bobby	1.0508	0.4184	9071.	3792.	34645.	13	1955	1966
Fox, Nellie	1.0492	0.4254	17805.	7567.	58671.	14	1950	1965

Gantner, Jim	1.0465	0.4485	10746.	4754.	36711.	15	1978	1992
Ellis, Mark	1.0465	0.4874	6625.	3230.	24897.	16	2002	2010
Hubbard, Glenn	1.0455	0.4312	10865.	4645.	33618.	17	1978	1989
Stennett, Rennie	1.0423	0.4291	8211.	3522.	26767.	18	1971	1981
Alicea, Luis	1.0409	0.4706	6248.	2925.	24027.	19	1988	2002
Kinsler, Ian	1.0395	0.4802	4372.	2100.	16188.	20	2006	2010

Trailers

DeShields, Delino	0.9693	0.4404	9632.	4230.	35208.	97	1990	2002
Boone, Bret	0.9685	0.4347	11919.	5164.	45658.	98	1992	2005
Soriano, Alfonso	0.9603	0.4376	5431.	2361.	20257.	99	2000	2008
Andrews, Mike	0.9602	0.3761	6130.	2301.	20036.	100	1966	1973
Alomar, Roberto	0.9593	0.4393	16399.	7170.	59628.	101	1988	2004
Remy, Jerry	0.9558	0.3884	9110.	3531.	28844.	102	1975	1984
Alomar, Sandy	0.9552	0.3765	8878.	3343.	28576.	103	1965	1978
Millan, Felix	0.9534	0.3808	11866.	4520.	38000.	104	1966	1977
Roberts, Brian	0.9494	0.4438	7495.	3324.	28245.	105	2001	2010
Backman, Wally	0.9490	0.3996	5588.	2193.	18388.	106	1980	1993
Uggl, Dan	0.9470	0.4252	5457.	2321.	20263.	107	2006	2010
Doran, Bill A.	0.9443	0.4057	10346.	4138.	34252.	108	1982	1993
McAuliffe, Dick	0.9416	0.3699	7385.	2729.	23879.	109	1962	1974
Cora, Joey	0.9380	0.4292	6209.	2670.	23476.	110	1987	1998
Kuiper, Duane	0.9345	0.3793	7429.	2818.	22979.	111	1974	1984
Rose, Pete	0.9274	0.3792	5091.	1931.	16225.	112	1963	1979
Young, Bobby	0.9239	0.3751	5160.	1935.	16903.	113	1951	1958
Franco, Julio	0.9228	0.4424	4686.	2064.	17087.	114	1985	1997
Sutherland, Gary	0.9116	0.3509	5447.	1906.	16752.	115	1968	1978
Orta, Jorge	0.8823	0.3501	5476.	1917.	17507.	116	1972	1979

Of course, fielding range is not the only criterion one would consider when rating infielders, but it is kind of a shock to see Roberto Alomar's name in a "final 20" grouping, two spots ahead of his light-hitting glove man father. Bill Mazeroski ranks a surprising 43rd among secondbasemen. Horace Clarke never won a Gold Glove and is largely forgotten today.

Thirdbasemen: Qualification criteria were met by 115 players.

Leaders

Santo, Ron	1.1019	0.5299	11197.	5934.	56332.	1	1960	1974
Boyer, Clete	1.0958	0.5289	8145.	4308.	37048.	2	1955	1971
Inge, Brandon	1.0789	0.5587	4302.	2407.	22692.	3	2004	2010
Pendleton, Terry	1.0734	0.5378	8994.	4823.	46185.	4	1984	1998
Rolen, Scott	1.0655	0.5221	9328.	4857.	48638.	5	1996	2010
Oberkfell, Ken	1.0640	0.5064	4776.	2406.	24497.	6	1977	1991
Bell, Buddy	1.0587	0.5147	12023.	6209.	56899.	7	1972	1989
Robinson, Brooks	1.0580	0.5194	15425.	8006.	75113.	8	1955	1977
Zimmerman, Ryan	1.0576	0.5235	3511.	1840.	19049.	9	2005	2010
Feliz, Pedro	1.0548	0.5228	4271.	2237.	23244.	10	2000	2010
Brett, George	1.0515	0.5132	9111.	4671.	43747.	11	1973	1992
Jones, Willie	1.0503	0.5348	7378.	3946.	37384.	12	1950	1961
Evans, Darrell	1.0502	0.5076	7950.	4029.	36670.	13	1969	1989
McMullen, Ken	1.0500	0.5132	7194.	3692.	33104.	14	1963	1977
Castilla, Vinny	1.0496	0.5162	7874.	4060.	42915.	15	1992	2006
Salazar, Luis	1.0479	0.5148	3809.	1946.	19661.	16	1980	1992
Wallach, Tim	1.0461	0.5144	10009.	5135.	53297.	17	1981	1996
Cirillo, Jeff	1.0443	0.5068	6324.	3195.	33766.	18	1994	2007
Chavez, Eric	1.0441	0.5244	6017.	3152.	31978.	19	1998	2009
Molitor, Paul	1.0432	0.5179	4043.	2086.	20694.	20	1978	1990

Trailers

Lansford, Carney	0.9612	0.4791	8062.	3837.	43920.	96	1978	1992
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Sabo, Chris	0.9604	0.5083	3573.	1823.	21168.	97	1988	1996
Bailey, Bob	0.9599	0.4611	6024.	2781.	29721.	98	1962	1978
Knight, Ray	0.9594	0.4525	4751.	2149.	24141.	99	1974	1988
Howell, Roy	0.9548	0.4719	4394.	2073.	21282.	100	1974	1984
Parrish, Larry	0.9541	0.4650	5306.	2467.	26306.	101	1974	1987
Presley, Jim	0.9533	0.4710	4584.	2147.	23410.	102	1984	1991
Sprague, Ed Jr.	0.9511	0.4737	4610.	2184.	26166.	103	1991	2001
Madlock, Bill	0.9494	0.4496	7019.	3136.	36432.	104	1973	1987
Horner, Bob	0.9491	0.4491	3368.	1512.	17109.	105	1978	1985
Killebrew, Harmon	0.9459	0.4653	3899.	1816.	18725.	106	1955	1971
Cabell, Enos	0.9457	0.4598	4434.	2041.	22210.	107	1973	1986
Palmer, Dean	0.9450	0.4729	5094.	2407.	29557.	108	1989	2003
Gross, Wayne	0.9449	0.4586	4207.	1930.	20695.	109	1977	1986
Alvis, Max	0.9388	0.4568	5363.	2450.	25451.	110	1962	1970
Harrah, Toby	0.9375	0.4599	5358.	2463.	27631.	111	1971	1984
Hollins, Dave	0.9369	0.4781	3411.	1630.	19549.	112	1990	1998
Freese, Gene	0.9360	0.4682	3715.	1736.	19235.	113	1955	1966
Ramirez, Aramis	0.9355	0.4585	7193.	3304.	38422.	114	1998	2010
Johnson, Howard	0.9008	0.4509	4263.	1914.	24292.	115	1982	1995

The author is dismayed to see his namesake as the 115th ranked thirdbaseman in this study. Santo finishing at the top of the list is a minor surprise, only when you consider who else resides in the top 10.

Shortstops: Qualification criteria were met by 122 players.

Leaders

Reese, Pee Wee	1.1599	0.4580	7659.	3504.	26947.	1	1950	1958
Belanger, Mark	1.1441	0.4304	15641.	6712.	46012.	2	1965	1982
Smith, Ozzie	1.1212	0.4441	21681.	9505.	65357.	3	1978	1996
Kubek, Tony	1.1044	0.4159	7719.	3209.	22699.	4	1957	1965
Michael, Gene	1.1025	0.4184	6908.	2874.	20261.	5	1966	1975
Concepcion, Dave	1.0878	0.4110	18817.	7675.	55140.	6	1970	1988
Bell, Jay	1.0861	0.4552	11210.	5094.	38753.	7	1987	2003
Sanchez, Rey	1.0780	0.4384	7139.	3124.	22931.	8	1991	2005
Wilson, Jack E.	1.0772	0.4400	9494.	4165.	31435.	9	2001	2010
Lanier, Hal	1.0750	0.3964	6100.	2415.	16110.	10	1964	1973
Yount, Robin	1.0687	0.3982	13941.	5521.	38835.	11	1974	1984
Washington, U L	1.0595	0.3968	5886.	2328.	17593.	12	1977	1987
Templeton, Garry	1.0578	0.4084	17218.	6976.	50241.	13	1976	1991
Burleson, Rick	1.0578	0.3969	10785.	4270.	30999.	14	1974	1986
Peralta, Jhonny	1.0576	0.4462	5605.	2501.	19597.	15	2003	2010
Uribe, Juan	1.0568	0.4320	6923.	2982.	23168.	16	2001	2010
McMillan, Roy	1.0559	0.4144	17292.	7153.	50889.	17	1951	1966
Kessinger, Don	1.0557	0.3984	17306.	6872.	49865.	18	1964	1979
Meares, Pat	1.0556	0.4330	6574.	2825.	22165.	19	1993	2000
Miranda, Willie	1.0481	0.3995	5639.	2249.	16067.	20	1951	1959

Trailers

Disarcina, Gary	0.9729	0.4101	8403.	3444.	27909.	103	1990	2000
Owen, Spike	0.9720	0.3812	11475.	4301.	34191.	104	1983	1995
Taveras, Frank	0.9693	0.3755	9547.	3579.	27015.	105	1972	1982
Versalles, Zoilo	0.9677	0.3535	12176.	4293.	32558.	106	1959	1971
McAuliffe, Dick	0.9674	0.3518	5896.	2072.	16084.	107	1960	1974
Buddin, Don	0.9671	0.3700	6322.	2339.	17192.	108	1956	1962
Dark, Al	0.9644	0.3808	10175.	3870.	29845.	109	1950	1959
Reynolds, Craig	0.9571	0.3559	10806.	3830.	29301.	110	1975	1989
Veryzer, Tom	0.9539	0.3556	8228.	2920.	22085.	111	1973	1984
Gonzalez, Alex S.	0.9461	0.3801	10230.	3877.	32838.	112	1994	2006
Franco, Julio	0.9455	0.3294	7098.	2333.	18515.	113	1982	1987

Cardenas, Leo	0.9436	0.3615	17526.	6325.	48016.	114	1960	1975
Bressoud, Eddie	0.9413	0.3551	9033.	3198.	24508.	115	1956	1967
Blauser, Jeff	0.9397	0.3903	7718.	3012.	25757.	116	1987	1999
Metzger, Roger	0.9365	0.3614	11205.	4044.	30003.	117	1970	1980
Jeter, Derek	0.9334	0.3851	17298.	6630.	59232.	118	1995	2010
Ramirez, Hanley	0.9206	0.3778	5804.	2191.	19227.	119	2005	2010
Gutierrez, Ricky	0.9204	0.3663	6651.	2420.	21148.	120	1993	2004
Menke, Denis	0.9188	0.3456	7795.	2680.	20313.	121	1962	1974
Brown, Larry	0.8958	0.3265	6835.	2227.	18226.	122	1963	1971

Poor fielders don't play shortstop in the major leagues very long. The presence of luminaries like Al Dark and Derek Jeter in the lower echelons of these rankings is mindboggling, but the numbers are what they are. There don't seem to be any suspected numerical flukes in the top 20 though.

Leftfielders: Qualification criteria were met by 117 players.

Leaders

White, Roy	1.1539	0.4296	7360.	3159.	39933.	1	1966	1979
Wilson, Willie	1.1098	0.4636	3362.	1553.	15560.	2	1978	1991
Briggs, John E.	1.1071	0.4077	3129.	1275.	16191.	3	1964	1975
Martinez, Carmelo	1.0828	0.4384	2547.	1106.	14013.	4	1983	1991
Henderson, Rickey	1.0760	0.4864	10812.	5219.	59790.	5	1979	2003
Bonds, Barry	1.0689	0.4640	11514.	5234.	68723.	6	1987	2007
Gilkey, Bernard	1.0688	0.5006	3604.	1802.	24381.	7	1990	2001
Damon, Johnny	1.0684	0.4269	2756.	1145.	14767.	8	1997	2010
Crawford, Carl	1.0672	0.3782	6726.	2544.	29639.	9	2002	2010
Podsednik, Scott	1.0663	0.3740	2768.	1036.	13162.	10	2001	2010
Jenkins, Geoff	1.0630	0.3866	4454.	1692.	22872.	11	1998	2007
Cordova, Marty	1.0620	0.4852	3010.	1448.	17255.	12	1995	2003
Rudi, Joe	1.0605	0.4054	5434.	2208.	29075.	13	1967	1982
Payton, Jay	1.0605	0.3681	2599.	959.	11524.	14	1998	2010
Colavito, Rocky	1.0585	0.3890	2605.	1016.	13253.	15	1961	1968
Gladden, Dan	1.0582	0.5371	3110.	1662.	19563.	16	1985	1993
Wohlford, Jim	1.0517	0.4065	2625.	1073.	12947.	17	1973	1986
Vaughn, Greg	1.0496	0.4994	5125.	2525.	31718.	18	1989	2003
Reichardt, Rick	1.0468	0.3780	3174.	1201.	17577.	19	1965	1973
Higginson, Bobby	1.0449	0.4342	3117.	1333.	16305.	20	1995	2005

Trailers

Daniels, Kal	0.9433	0.4597	2401.	1101.	15382.	98	1986	1992
Matthews, Gary	0.9405	0.3542	6901.	2444.	36110.	99	1972	1987
Martin, Al	0.9382	0.4096	3389.	1379.	21921.	100	1992	2003
Howard, Frank	0.9376	0.3343	3976.	1326.	21801.	101	1958	1972
Davis, H. Tommy	0.9369	0.3325	4924.	1635.	25957.	102	1960	1972
Horton, Willie	0.9309	0.3361	5158.	1735.	27089.	103	1963	1978
Alou, Moises	0.9307	0.3699	5394.	1940.	30613.	104	1990	2008
May, Carlos	0.9278	0.3429	3025.	1039.	16744.	105	1968	1977
Greenwell, Mike	0.9257	0.4679	4348.	2032.	28543.	106	1985	1996
Burrell, Pat	0.9235	0.3094	6362.	1967.	31300.	107	2000	2010
Watson, Bob	0.9153	0.3397	2570.	876.	13992.	108	1968	1982
Klesko, Ryan	0.9137	0.3775	2967.	1104.	19193.	109	1993	2007
Covington, Wes	0.9092	0.3362	2965.	996.	17072.	110	1956	1966
Kiner, Ralph	0.9088	0.3590	4004.	1437.	20285.	111	1950	1955
Incaviglia, Pete	0.9030	0.4446	3158.	1396.	19528.	112	1986	1998
Luzinski, Greg	0.8991	0.3374	5451.	1840.	30274.	113	1972	1980
Wagner, Leon	0.8799	0.3186	4760.	1522.	25361.	114	1958	1969
Williams, Ted	0.8780	0.3513	4735.	1665.	23844.	115	1950	1960
Ramirez, Manny	0.8689	0.3059	5224.	1597.	25706.	116	2001	2010
Moon, Wally	0.8367	0.3151	2793.	874.	14184.	117	1954	1965

I relaxed the qualification standards a bit for outfielders so that there would be at least 100 players at each position. It seems that relatively few corner outfielders spend a career at one position. Wally Moon and the Red Sox leftfielders were perhaps penalized unfairly because the available data doesn't differentiate between screaming line drives down the third base line and lazy fly balls that scrape a very high left field wall (or screen) that is ridiculously close to home plate. Carl Yastrzemski ranks 81st and Jim Rice 97th.

Centerfielders: Qualification criteria were met by 127 players.

Leaders

Ashburn, Richie	1.0902	0.5156	9764.	5050.	45164.	1	1950	1962
Erstad, Darin	1.0878	0.5016	3022.	1510.	13597.	2	1996	2008
Flood, Curt	1.0745	0.4715	8531.	4021.	42427.	3	1958	1971
Jones, Andrew	1.0614	0.4719	9574.	4461.	44568.	4	1996	2010
Busby, Jim	1.0603	0.5088	6426.	3276.	29307.	5	1950	1962
Milner, Eddie	1.0565	0.4865	3163.	1534.	13906.	6	1982	1988
Payton, Jay	1.0551	0.4523	3140.	1415.	14476.	7	1999	2010
Scott, Tony	1.0544	0.4978	3103.	1545.	15071.	8	1973	1984
Thomas, Gorman	1.0543	0.5166	5011.	2582.	24412.	9	1973	1983
Lankford, Ray	1.0531	0.5773	4879.	2811.	28973.	10	1990	2004
North, Billy	1.0516	0.5055	5455.	2759.	25045.	11	1972	1981
Blair, Paul	1.0512	0.4881	8739.	4269.	41569.	12	1964	1979
Yount, Robin	1.0469	0.5914	5193.	3057.	29775.	13	1985	1993
Cameron, Mike	1.0468	0.4736	9820.	4601.	44406.	14	1995	2010
Agee, Tommie	1.0462	0.4634	4645.	2152.	23331.	15	1962	1973
Davis, Willie	1.0448	0.4645	11375.	5283.	57564.	16	1960	1976
Lewis, Darren	1.0442	0.5760	4148.	2384.	23139.	17	1990	2002
Piersall, Jimmy	1.0436	0.4853	6433.	3124.	30012.	18	1950	1966
Murcer, Bobby	1.0433	0.4887	3745.	1828.	20182.	19	1969	1979
Beltran, Carlos	1.0410	0.4554	9176.	4124.	40897.	20	1998	2010

Trailers

Moseby, Lloyd	0.9635	0.4969	6791.	3352.	33899.	108	1980	1990
Wynn, Jimmy	0.9634	0.4258	6321.	2685.	30325.	109	1963	1976
LeFlore, Ron	0.9622	0.4685	4546.	2128.	21708.	110	1974	1982
Wilson, Preston	0.9596	0.4237	4730.	1977.	22147.	111	1998	2006
Pinson, Vada	0.9566	0.4253	8977.	3820.	43728.	112	1958	1975
Murphy, Dale	0.9566	0.4517	5288.	2370.	27119.	113	1980	1990
Bell, Gus	0.9563	0.4575	4452.	2043.	21559.	114	1953	1962
Griffey, Ken Jr.	0.9549	0.4995	10462.	5155.	54861.	115	1989	2008
Landreaux, Ken	0.9514	0.4431	3991.	1770.	20686.	116	1977	1987
Patterson, Corey	0.9476	0.3905	5147.	2013.	22954.	117	2000	2010
Snider, Duke	0.9460	0.4499	7075.	3178.	35547.	118	1950	1963
Burks, Ellis	0.9458	0.5282	4454.	2348.	26377.	119	1987	1998
Monday, Rick	0.9414	0.4346	7466.	3247.	37158.	120	1966	1980
Groth, Johnny	0.9404	0.4531	4623.	2098.	21530.	121	1950	1960
Martinez, Dave	0.9401	0.5178	3476.	1778.	18829.	122	1986	2000
Everett, Carl	0.9391	0.4667	2960.	1360.	15954.	123	1993	2003
Wells, Vernon	0.9346	0.3993	7797.	3102.	35062.	124	1999	2010
McDowell, Oddibe	0.9296	0.4929	3082.	1507.	15588.	125	1985	1994
Cruz, Jose Jr.	0.9265	0.4531	3024.	1358.	15128.	126	1997	2008
Alou, Matty	0.9046	0.3938	4238.	1665.	21370.	127	1961	1971

As was the case with the shortstops, centerfielders with limited range aren't centerfielders very long. Even the players ranked in the 100s could go get the ball. Ashburn through Beltran, though, all had, or are having, stellar careers out there. Willie Mays ranks 34th, falling between Gary Pettis and Willie McGhee.

Rightfielders: Qualification criteria were met by 120 players.

Leaders

Oliva, Tony	1.1187	0.4568	4958.	2263.	29849.	1	1962	1972
Kearns, Austin	1.1132	0.4050	4182.	1690.	19317.	2	2002	2010
Jordan, Brian	1.1131	0.4983	3991.	1962.	23406.	3	1992	2005
Armas, Tony	1.1091	0.5036	2685.	1349.	15404.	4	1977	1989
Crawford, Willie	1.0976	0.4543	2505.	1138.	15440.	5	1964	1977
Suzuki, Ichiro	1.0956	0.4144	6913.	2859.	33935.	6	2001	2010
King, Jim	1.0954	0.4463	2748.	1226.	16031.	7	1955	1967
Lawton, Matt	1.0861	0.4698	3585.	1658.	19506.	8	1995	2006
Orsulak, Joe	1.0820	0.5554	2141.	1183.	13850.	9	1984	1997
Deer, Rob	1.0724	0.5514	3412.	1871.	22009.	10	1985	1996
McBride, Bake	1.0714	0.4635	2494.	1157.	13916.	11	1977	1983
Whiten, Mark	1.0697	0.5489	2648.	1454.	17383.	12	1990	1998
Allison, Bob	1.0687	0.4505	2689.	1215.	15995.	13	1959	1970
Bonds, Bobby	1.0670	0.4514	6472.	2921.	37432.	14	1968	1981
Alou, Felipe	1.0647	0.4212	2886.	1214.	17068.	15	1958	1974
Post, Wally	1.0641	0.4238	3820.	1618.	21112.	16	1953	1964
Callison, Johnny	1.0600	0.4283	6914.	2956.	40270.	17	1960	1973
Lezcano, Sixto	1.0581	0.4556	4718.	2138.	26536.	18	1974	1985
Aaron, Hank	1.0572	0.4260	9951.	4236.	56631.	19	1954	1973
Parker, Dave	1.0567	0.4382	8351.	3636.	46831.	20	1973	1989

Trailers

Washington, Claudell	0.9501	0.4149	4479.	1850.	27226.	101	1974	1990
Marshall, Mike A.	0.9497	0.4150	2469.	1014.	16238.	102	1981	1991
Sheffield, Gary	0.9467	0.4005	5166.	2050.	29532.	103	1994	2009
Staub, Rusty	0.9461	0.3914	7482.	2921.	41877.	104	1963	1983
Gonzalez, Juan	0.9440	0.4247	3208.	1332.	19026.	105	1990	2004
Bass, Kevin	0.9428	0.4381	3662.	1582.	22172.	106	1982	1995
Griffey, Ken	0.9388	0.4009	4538.	1819.	24707.	107	1973	1989
Bell, Derek	0.9344	0.4299	3257.	1388.	20770.	108	1992	2001
Tartabull, Danny	0.9332	0.4666	3295.	1536.	22909.	109	1986	1997
Ramirez, Manny	0.9312	0.4479	3629.	1615.	23302.	110	1993	2002
Singleton, Ken	0.9304	0.4010	5614.	2246.	32673.	111	1970	1982
Cowens, Al	0.9286	0.4069	5913.	2391.	31981.	112	1974	1986
Burroughs, Jeff	0.9211	0.4045	3569.	1438.	21862.	113	1970	1982
Buhner, Jay	0.9145	0.4584	5369.	2454.	34262.	114	1987	2001
Ethier, Andre	0.9138	0.3258	2611.	850.	12532.	115	2007	2010
Sierra, Ruben	0.9118	0.4622	5723.	2630.	35996.	116	1986	2005
Furillo, Carl	0.9080	0.3625	5953.	2161.	31768.	117	1950	1960
Murcer, Bobby	0.8993	0.3837	3556.	1364.	21317.	118	1969	1980
Hawpe, Brad	0.8748	0.3129	3914.	1226.	18750.	119	2004	2010
Moreland, Keith	0.8613	0.3408	2567.	875.	13855.	120	1980	1986

Austin Kearns in 2nd place represents a surprise to this observer. Carl Furillo seems to be another victim of the wall effect courtesy of Ebbets Field, plus the fact that the available data start around the middle of his career, capturing his declining years while missing his youth. Bobby Murcer's right field days came late in his career, but it still seems strange to see an outfielder rank in the top 20 as a centerfielder and in the bottom 20 during the right field portion of his career. Al Kaline ranks 23rd and Roberto Clemente resides in 34th place.

Overall, despite some perceived glitches in the rankings, the methodology outlined above performed well (when viewed subjectively by the author). More detail would help. Certainly pitching staff makeup and ball park effects (size of foul territory, outfield size and configuration, height of outfield walls, type of playing surface, etc.) create some seeming anomalies. It should be noted again that Fenway Park's fabled "Green Monster" appeared to do that club's leftfielders no great favors under this methodology as

Ramirez, Williams, Greenwell, and Rice all show up in the bottom 21 at that position, and even the great Yastrzemski posts an FR-score that is below par (.979 for 81st place). Perhaps someone more industrious and imaginative than the author can explore those items. Some players with strong reputations for fielding excellence did not fare as well as one would expect (Bill Mazerowski, Omar Vizquel, Duke Snider, and Derek Jeter - all but Maz with FR-scores less than 1.00, immediately come to mind) but few, if any, of the legendarily stationary (statuesque?) fielders made it onto the leader boards and the “bottom 20s” are dominated by such types. The rankings of some other players may well be suppressed by their continuing to play in the field despite injury or the declining speed and quickness which is part of the normal aging process.

Table 1. Fielders Held Responsible When Type and Location of Hit Is Known (fielding zone versus batter hand and hit type –LF=fly ball by left handed hitter, etc.).

	LF	LG	LL	LP	RF	RG	RL	RP
1	13456	1	1	135	13456	1	1	135
13	13	1	1	1345	13	1	1	1345
15	15	1	1	156	135	1	1	156
1S	135	1	1	1235	135	1	1	1235
2	2	12	2	2	23	12	2	2
23	23	123	3	123	23	123	3	123
23F	23	123	3	123	23	123	3	123
25	5	125	5	125	5	125	5	125
25F	25	25	5	25	25	25	5	25
2F	2	25	2	2	2	25	2	2
3	3	3	3	34	3	3	3	34
34	34	4	34	34	34	34	34	34
34D	49	4	4	49	49	4	49	49
34S	3	134	3	134	134	134	3	34
3D	349	34	34	34	349	34	349	349
3DF	349	3	3	34	349	3	3	34
3F	34	3	3	34	3	3	3	34
3S	3	13	3	13	3	13	3	3
4	4	4	4	4	4	4	4	4
4D	489	4	4	49	489	4	4	49
4M	46	146	146	46	146	14	14	46
4MD	4689	146	146	468	48	14	14	468
4MS	346	146	14	3456	14	146	14	346
4S	34	134	34	34	346	134	34	34
5	5	56	5	56	5	56	5	56
56	56	56	56	56	56	56	56	56
56D	67	6	67	67	67	6	6	67
56S	56	5	5	56	56	5	5	56
5D	567	5	5	567	567	5	5	56
5DF	567	5	5	56	567	5	5	56
5F	56	5	5	56	56	5	5	56
5S	15	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6
6D	67	6	6	67	67	6	6	67
6M	6	16	16	46	46	16	16	46
6MD	678	16	168	68	4678	146	1468	68
6MS	6	16	146	456	6	16	146	456
6S	56	56	56	56	56	56	156	56
7	7	6	67	7	7	6	67	7
78	78	6	78	78	78	6	78	78
78D	78	6	78	78	78	6	78	78
78S	78	6	678	678	78	6	678	678
78XD	78	6	78	78	78	6	78	78
7D	7	6	7	7	7	6	7	7
7L	7	5	57	67	57	5	57	67
7LD	7	5	57	7	57	5	57	7
7LDF	7	5	57	7	57	5	57	7
7LF	7	5	57	567	57	5	57	567
7LS	7	5	57	567	57	5	57	567
7LSF	567	5	57	567	57	5	57	567
7S	67	6	67	67	7	6	67	67
8	8	146	468	8	8	146	468	8
89	89	4	489	89	89	4	489	89
89D	89	4	89	89	89	4	89	89
89S	89	4	489	489	89	4	489	489

89XD	89	4	89	89	89	4	89	89
8D	8	146	8	8	8	146	8	8
8S	8	146	468	468	8	146	468	468
8XD	8	146	8	8	8	146	8	8
9	9	4	49	9	9	4	49	9
9D	9	4	9	9	9	4	9	9
9L	9	3	39	349	9	3	39	349
9LD	9	3	39	9	9	3	39	9
9LDF	9	3	39	9	9	3	39	9
9LF	9	3	39	349	9	3	39	349
9LS	49	3	39	349	9	3	39	349
9LSF	349	3	39	349	39	3	39	349
9S	9	4	9	49	9	4	49	49

Table 2. Partial “Opportunities” Assigned to Fielding Positions When Neither Type, Location, and Fielder of Hit Are Known (LS=Single by Lefthanded Batter, etc.).

	LS	LD	LT	RS	RD	RT
1	.24	.01	.01	.26	.01	.01
2	.01	0	0	.01	0	0
3	.19	.24	.28	.09	.11	.16
4	.51	.1	.13	.37	.07	.11
5	.11	.15	.03	.24	.32	.04
6	.48	.06	.03	.55	.13	.04
7	.15	.38	.20	.14	.45	.23
8	.17	.36	.51	.13	.35	.57
9	.14	.40	.60	.15	.31	.65

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