The 2016 Receiver Wrap-Up

By Eric Hardter

Table of Contents

INTRODUCTION

Quite possibly the most consequential paradigm shift over the past five years as it relates to dynasty fantasy football is the emergence of the wide receiver position. Sensibly enough, there are a multitude of reasons for this, including but not limited to the following:

- *They tend to last longer, and as such they tend to put up numbers for longer* – If you search through the early portions of the monthly DLF ADP, you won't find (m)any 27+ running backs amongst the ranks. The fact is, ball carriers simply aren't expected to play into their late 20s or early 30s, and if they do, the examples are few and far between for those who continue to post elite numbers. Transcendent receivers, however, are a different breed – just this past year alone, the 30+ trio of **Brandon Marshall**, **Calvin Johnson** and **Larry Fitzgerald** all finished as PPR WR1 performers. Given the respective periods of expected longevity between the two positions, it's not surprising pass catchers are viewed as dynasty foundation pieces.
- *There's no such thing as "receiver by committee"* – Only 15 running backs exceeded 200 carries last year, and not surprisingly, only *seven* ball carriers were able to surpass the 1,000-yard barrier. This is down from 13 in 2013/2014, 16 in 2012, and 15 in 2011. As the league gradually devalues the bell cow back, the fantasy points are soon to follow. Speaking of…
- *The point disparity between receivers and running backs is now a chasm* – In 2015, 26 receivers scored at least 200 PPR points, with six of those surpassing the triple century mark. The average point total for the PPR Top-12 receivers last season was 306.7 PPG. As for the running backs? Those numbers stood at 12, one, and 232.9, respectively. Be it due to relative skill levels, or perhaps more importantly the prevalence of the PPR scoring system, receivers are bringing home the bacon.
- *Value, value, value* – If you look at just about any monthly ADP list there's a good chance it'll be dominated by receivers. In an average startup draft it's not unexpected to see 10 of the first 12 picks used on wide-outs, and 75-80% of the first two stanzas slanted towards receivers. Circling back to the bullet points above, it makes sense – they play longer, they score more points, and they don't typically have to worry about positional competition. For these reasons, the receiver position is now viewed as the most valuable of all.

Given that, it's prudent to dive more deeply into what makes these guys tick. As such, I chose to dig into the 2015 PPR Top-50 receivers with the vigor of a sand crab trying to escape a shovel-wielding child at the beach. Included within is a metrical look at just about every aspect of each receiver's fantasy scoring, his efficiency, his weekly reliability, and even a foray into his real-life NFL value. Some of these methodologies may appeal to you, and others may not, but at the end of the day I wanted to craft as complete a look at each player as I possibly could.

So without further adieu, I'll wrap this up and get to The 2016 Receiver Wrap-Up!

AGGREGATE TEAM PASSING PRODUCTION

As anyone who's ever read my previous work knows, I'm a firm believer that raw stats simply don't tell the whole story. The way a player performs within the scope of his offense not only provides a fuller glimpse into his numbers, but can help predict how things might change moving forward. When it comes to the receiver position, the first step in attaining this knowledge is looking at how well the passing offense as a whole performed.

Shown below is the aggregate fantasy output provided by each of the 32 NFL teams, broken down into the following scoring system:

- 0.1 points per passing yard
- 1.0 points per reception
- 6.0 points per passing touchdown

In essence, what I've done is merge team passing totals with receiver scoring, giving a mechanism to provide total receiving output across all the pass-catching positions (receiver, running back, tight end, and even trick plays). The short of it is that every passing completion contributed to the aggregate totals. Summarized in descending order by Total Points, the data is shown below:

Team	Attempts	Completions	TDs	Yards	Total Points	First Downs
New Orleans	667	460	32	5205	1172.5	247
San Diego	667	442	30	4855	1107.5	230
New England	629	404	36	4812	1101.2	229
Detroit	632	420	33	4463	1064.3	236
NY Giants	623	392	36	4504	1058.4	208
Arizona	562	353	35	4775	1040.5	237
Pittsburgh	590	391	26	4822	1029.2	207
Jacksonville	607	355	35	4428	1007.8	215
Baltimore	676	426	21	4449	996.9	211
Atlanta	621	410	21	4602	996.2	230
Washington	555	386	30	4294	995.4	208
Oakland	605	373	34	4129	989.9	193
Philadelphia	623	405	23	4341	977.1	193
NY Jets	604	362	33	4170	977.0	210
Seattle	489	333	34	4061	943.1	190
Houston	619	358	29	4079	939.9	210
Miami	588	365	24	4231	932.1	194
Cincinnati	505	334	31	4104	930.4	191
Green Bay	573	348	31	3825	916.5	173

Team	Attempts	Completions	TDs	Yards	Total Points	First Downs
Cleveland	609	371	20	4156	906.6	192
Indianapolis	619	355	26	3928	903.8	195
Denver	606	368	19	4216	903.6	201
Carolina	501	300	35	3873	897.3	197
Tennessee	551	342	25	3893	881.3	195
Tampa Bay	535	312	22	4042	848.2	201
Chicago	523	334	21	3843	844.3	177
Dallas	528	334	16	3677	797.7	175
Buffalo	465	295	23	3600	793.0	155
San Francisco	526	322	16	3646	782.6	154
Kansas City	473	310	20	3493	779.3	155
Minnesota	454	294	14	3246	702.6	153
St. Louis	473	273	11	2931	632.1	126
Sums	18298	11527	842	132693	29848.3	6288

As will be the case with each section, I'll save the majority of my thoughts for the concluding chapter. But given the scope of the above, there are a few nuggets I'll share now:

- 31 of 32 teams had at least one Top-50 PPR receiver. The only team not to produce a Top-50 guy was the Tennessee Titans.
- Three of the 32 teams had three Top-50 PPR receivers – Arizona, Pittsburgh, and Seattle.
- Across all 32 teams, the total percentages of points came as follows:
    - 44.5% of points came from receiving yards
    - 38.6% of points came from receptions
    - 16.9% of points came from receiving touchdowns

With these numbers in hand, it's now time to consider the raw numbers for each of the 2015 PPR Top-50 receivers. Please note that this only takes receiving statistics into account, and doesn't delve into rushing numbers for each player. The vast majority of times this didn't change the number of fantasy points a player scored, but in some instances (**Jarvis Landry**, **Martavis Bryant**) the difference was non-negligible, and in others (I'm looking at you, **Tavon Austin**), it was dramatic. Nevertheless, this is an exercise in gauging each player's receiving ability, and as such I'll stay within the intended scope.

These numbers are shown below:

Name	Team	Games	Targets	Receptions	Yards	Touchdowns	PPR Points	First Downs
Antonio Brown	PIT	16	193	136	1,834	10	379.4	84
Julio Jones	ATL	16	203	136	1,871	8	371.1	93
Brandon Marshall	NYJ	16	173	109	1,502	14	343.2	76
DeAndre Hopkins	HOU	16	192	111	1,521	11	329.1	83
Odell Beckham Jr	NYG	15	158	96	1,450	13	319.0	67
Allen Robinson	JAC	16	151	80	1,400	14	304.0	61
Larry Fitzgerald	ARI	16	146	109	1,215	9	284.5	65
AJ Green	CIN	16	132	86	1,297	10	275.7	63
Demaryius Thomas	DEN	16	177	105	1,304	6	271.4	63
Doug Baldwin	SEA	16	103	78	1,069	14	268.9	47
Calvin Johnson	DET	16	149	88	1,214	9	263.4	65
Eric Decker	NYJ	15	132	80	1,027	12	254.7	60
Brandin Cooks	NO	16	129	84	1,140	9	252.0	45
Jarvis Landry	MIA	16	167	111	1,159	4	250.9	60
Jeremy Maclin	KC	15	124	87	1,088	8	243.8	49
Jordan Matthews	PHI	16	128	85	997	8	232.7	44
Michael Crabtree	OAK	16	146	85	922	9	231.2	45
Allen Hurns	JAC	15	105	64	1,030	10	227.0	48
Emmanuel Sanders	DEN	15	137	76	1,135	6	225.5	51
Sammy Watkins	BUF	12	93	60	1,047	9	218.7	41
Amari Cooper	OAK	16	130	72	1,070	6	215.0	45
Mike Evans	TB	14	145	74	1,208	3	212.8	63
TY Hilton	IND	16	134	69	1,124	5	211.4	49
Golden Tate	DET	16	129	90	813	6	207.3	50
John Brown	ARI	15	101	65	1,003	7	207.3	49
Kamar Aiken	BAL	15	126	75	944	5	199.4	53
Randall Cobb	GB	16	129	79	829	6	197.9	42
Travis Benjamin	CLE	16	125	68	966	5	194.6	39
James Jones	GB	16	99	50	890	8	187.0	39
Willie Snead	NO	15	102	70	990	3	187.0	44
Pierre Garcon	WAS	16	111	72	777	6	185.7	43
Rueben Randle	NYG	16	90	57	797	8	184.7	35
Ted Ginn Jr	CAR	14	97	44	739	10	177.9	36
Donte Moncrief	IND	16	105	64	733	6	173.3	40
Michael Floyd	ARI	14	88	52	849	6	172.9	40
Julian Edelman	NE	9	88	61	692	7	172.2	37
Anquan Boldin	SF	14	111	69	789	4	171.9	35
Marvin Jones	CIN	16	103	65	816	4	170.6	33

Name	Team	Games	Targets	Receptions	Yards	Touchdowns	PPR Points	First Downs
Keenan Allen	SD	8	89	67	725	4	163.5	34
Martavis Bryant	PIT	11	92	50	765	6	162.5	25
Alshon Jeffery	CHI	9	94	54	807	4	158.7	43
Terrance Williams	DAL	16	91	52	840	3	154.0	36
Tyler Lockett	SEA	15	68	51	664	6	153.4	31
Markus Wheaton	PIT	16	79	44	749	5	148.9	32
Stefon Diggs	MIN	13	84	52	720	4	148.0	31
Danny Amendola	NE	14	87	65	648	3	147.8	32
Jermaine Kearse	SEA	15	66	49	685	5	147.5	32
Nate Washington	HOU	13	94	47	658	4	136.8	33
Cole Beasley	DAL	16	75	52	536	5	135.6	31
Tavon Austin	STL	16	87	52	473	5	129.3	21

Now that the two tables above are accounted for, this will be the final glimpse of raw numbers contained within this study. As stated above, I'm less concerned with aggregate output, and significantly more focused on normalized data. And now that we're driving down this road of metrical analysis, I'll continue this 2015 post-mortem with my baby – the AIR metric.

Onto the next chapter!

2015 SEASONAL AND AVERAGE AIR SCORES

In the early portion of 2014, I was taking a break from actual scientific work in order to delve more deeply into my metaphorical fantasy laboratory. My goal at the time was simple – find a better way of quantifying exactly how efficient a receiver was in a fantasy setting. This needed to eclipse a more traditional and straightforward analysis of "points per target" or even "yards per target," a thought that should be reinforced by the first table in Chapter One. Put succinctly, all offenses, and more importantly all quarterbacks, are not created equal.

Is it fair to punish a receiver's output if he's catching passes from a bottom-tier signal caller? Conversely, could a prolific offense make a receiver seem better than he really was, thereby masking any sort of underlying deficiency? My end result for answering these questions was the Adjusted Improvement Ratio, or AIR metric for short.

The formula is relatively simple, and is shown below:

AIR = (Player PPR Points ÷ Team PPR Points) / (Player Targets ÷ Team Targets)

By assessing a player's market share of his team's fantasy points as a function of his proportion of the team's targets, the scope of the offense is effectively stabilized. In other words, if he received "bad" targets, that's okay, because so did the rest of the team, and vice versa with "good" targets. If said targets led to more or less fantasy points, that's regulated as well. Without sounding overly arrogant, I think it's the best way to judge a receiver's true efficiency both within his own offense, and as a comparative measure for players in different offenses.

For more background on the AIR metric, the initial work can be found here. I also previously used this metric to chronicle the 2014 rookie receivers, assess the Top-25 PPR receivers in 2014 (a three part series found here, here and here), and provide a comprehensive look at the Top-50 PPR receivers in 2014. The AIR metric also played a consequential role in my breakdowns of **Odell Beckham**, **Allen Robinson** and **Demaryius Thomas**. Fellow DLF Senior Writer George Kritikos has even used the AIR metric to measure the past two rookie receiver classes, using their college numbers (2015 and 2016 classes).

Before I get to the numbers below, one last bit on what the scores mean. If a player basically hit the average expectancy for his team, and his proportions of his team points and team targets were the same, his AIR score would be 1.00. If he was better or worse than expected, his AIR score would either exceed or fall below the average.

With that explanation in hand, let's take a look at the AIR values for the 2015 PPR Top-50 receivers, sorted in a descending manner:

Name	Team	PPR Points	Team Points	Targets	Team Targets	AIR
Sammy Watkins	BUF	218.7	793.0	93	465	1.38
Doug Baldwin	SEA	268.9	943.1	103	489	1.35
Allen Hurns	JAC	227.0	1007.8	105	607	1.30
Brandon Marshall	NYJ	343.2	977.0	173	604	1.23
Allen Robinson	JAC	304.0	1007.8	151	607	1.21
Rueben Randle	NYG	184.7	1058.4	90	623	1.21
Cole Beasley	DAL	135.6	797.7	75	528	1.20
Jeremy Maclin	KC	243.8	779.3	124	473	1.19
Eric Decker	NYJ	254.7	977.0	132	604	1.19
Odell Beckham Jr	NYG	319.0	1058.4	158	623	1.19
James Jones	GB	187.0	916.5	99	573	1.18
Tyler Lockett	SEA	153.4	943.1	68	489	1.17
Jordan Matthews	PHI	232.7	977.1	128	623	1.16
Jermaine Kearse	SEA	147.5	943.1	66	489	1.16
Julio Jones	ATL	371.1	996.2	203	621	1.14
Stefon Diggs	MIN	148.0	702.6	84	454	1.14
AJ Green	CIN	275.7	930.4	132	505	1.13
Donte Moncrief	IND	173.3	903.8	105	619	1.13
DeAndre Hopkins	HOU	329.1	939.9	192	619	1.13
Antonio Brown	PIT	379.4	1029.2	193	590	1.13
Terrance Williams	DAL	154.0	797.7	91	528	1.12
Julian Edelman	NE	172.2	1101.2	88	629	1.12
Tavon Austin	STL	129.3	632.1	87	473	1.11
Brandin Cooks	NO	252.0	1172.5	129	667	1.11
John Brown	ARI	207.3	1040.5	101	562	1.11
Keenan Allen	SD	163.5	1107.5	89	667	1.11
Emmanuel Sanders	DEN	225.5	903.6	137	606	1.10
Markus Wheaton	PIT	148.9	1029.2	79	590	1.08
TY Hilton	IND	211.4	903.8	134	619	1.08
Kamar Aiken	BAL	199.4	996.9	126	676	1.07
Michael Floyd	ARI	172.9	1040.5	88	562	1.06
Larry Fitzgerald	ARI	284.5	1040.5	146	562	1.05
Calvin Johnson	DET	263.4	1064.3	149	632	1.05
Alshon Jeffery	CHI	158.7	844.3	94	523	1.05
Travis Benjamin	CLE	194.6	906.6	125	609	1.05
Willie Snead	NO	187.0	1172.5	102	667	1.04
Anquan Boldin	SF	171.9	782.6	111	526	1.04
Demaryius Thomas	DEN	271.4	903.6	177	606	1.03

Name	Team	PPR Points	Team Points	Targets	Team Targets	AIR
Ted Ginn Jr	CAR	177.9	897.3	97	501	1.02
Martavis Bryant	PIT	162.5	1029.2	92	590	1.01
Amari Cooper	OAK	215.0	989.9	130	605	1.01
Danny Amendola	NE	147.8	1101.2	87	629	0.97
Michael Crabtree	OAK	231.2	989.9	146	605	0.97
Randall Cobb	GB	197.9	916.5	129	573	0.96
Nate Washington	HOU	136.8	939.9	94	619	0.96
Golden Tate	DET	207.3	1064.3	129	632	0.95
Jarvis Landry	MIA	250.9	932.1	167	588	0.95
Pierre Garcon	WAS	185.7	995.4	111	555	0.93
Mike Evans	TB	212.8	848.2	145	535	0.93
Marvin Jones	CIN	170.6	930.4	103	505	0.90

Not shockingly, the majority of the players listed checked in above the average AIR expectancy of 1.00. As these were the Top-50 fantasy receivers of 2015, the expectation is that not only would they score a decent chunk of points, but they would do so in a largely efficient manner. I'll get into the minutiae of *how* exactly they scored these points a bit later, helping to clarify and explain what went right or wrong, and how the numbers might serve as predictors moving forward.

Before that, however, I wanted to drill down from the seasonal sample size and focus on each weekly output as a singular data point, in an effort to effectively look at each player's year that was as multi-chaptered story versus a uniform collection of information. As it took me nearly 15 minutes to figure out how to word that sentence alone, I'm not surprised if the concept seems confusing at first. Let me try to explain.

When I calculate AIR metrics for each receiver over the course of the year, I pay no attention to anything other than the aggregate numbers. If a player had 150 targets, I don't honestly care if he had two games with 16+ targets and four games with four or fewer targets. The same can be applied to receptions, yards, and scores – over the course of however many games a player contributed in, he established an additive bottom line of pertinent statistics. The same can be said for the passing offense as a whole, with regards to total passing attempts and total PPR points provided to the pass catchers. As an example, **Antonio Brown** had an AIR score of 1.13 because over the course of the season he had 379.4 of the team's 1029.2 PPR points, and 193 of the 590 targets.

What we also know about Mr. Brown is that while he had numerous weeks of high end scoring, he also had a few down weeks while quarterback **Ben Roethlisberger** was injured. The sum of it all still yielded a robust fantasy output and above average efficiency, but the details of how it went down on a weekly basis got lost. Given that, I deemed it prudent to look into every game to glean a better sense of consistency – as such, Average AIR was born.

The concept here is simple. Since AIR scores ultimately boil down to fantasy points and passing attempts, the sample size is whatever the creator makes it. My standard methodology, shown earlier in this chapter, is to view it by year, but as described in the previous paragraphs it also makes sense to chart AIR scores on a weekly basis.

Once these weekly values are calculated, however, the biggest leap of faith involves *throwing out the weekly workload*. Yes, a game where a receiver has 15 targets is going to be more impactful to his offense (and the fantasy bottom line) than a game where he has three targets, there's no way around that. It's also going to account for a larger proportion of the receiver's seasonal AIR metric, since the statistic is volume-based. This is certainly important, but it's already accounted for in the AIR scores shown above. I want to dig deeper.

If volume is ignored, and each weekly score is averaged (see the Addendum for a listing of these weekly values), we can gain a clearer picture. For example, a receiver could have been below average most weeks, but if he was efficient in his high-target games, his seasonal AIR score will likely remain relatively high. Conversely, if a player was above average most weeks but suffered in his high-volume affairs, his seasonal AIR score would diminish.

When I put together last year's AIR Affair, I wrote the following about the Average AIR calculation:

"The thought process here is to determine the effect heavy-volume games had on a receiver's seasonal AIR value (each player's volume is reflected in the denominator of the AIR calculation). In other words, did certain players either benefit (their highest volume games had large weekly AIR values) or suffer (their highest volume games had small weekly AIR values) from single data points? If the Weekly AIR value (volume neglected) is larger than the Seasonal AIR value, it stands to reason the player suffered from high volume games as described above. Conversely, if the Weekly AIR value is lower than the Seasonal AIR value, it stands to reason the player benefited from high volume games as described above. Ideally, the player's Weekly AIR value will be higher than his Seasonal AIR value."

To that last sentence, I'm not honestly sure if that's true. Yes, I'd like to have a player that "wins weeks" with efficiency, but I'd also like to see him do it with a heavy workload. Of course, regardless of the workload, I'd like to see him "win weeks"…period. So while I'd still lean towards my 2015 words, especially as it might relate to a prediction of the future, ultimately the numbers are what they are, you're free to draw your own conclusions. The table below shows the Average AIR values, sorted in a descending manner:

Name	Team	Games	Average AIR
Allen Hurns	JAX	15	1.35
Doug Baldwin	SEA	16	1.29
Eric Decker	NYJ	15	1.27
Sammy Watkins	BUF	13	1.24
Brandon Marshall	NYJ	16	1.22
Rueben Randle	NYG	16	1.22
Odell Beckham	NYG	15	1.20
Donte Moncrief	IND	16	1.19
Allen Robinson	JAX	16	1.18
Jeremy Maclin	KC	15	1.18
Terrance Williams	DAL	16	1.18
John Brown	AZ	15	1.16
Ted Ginn	CAR	14	1.15
James Jones	GB	16	1.14
Stefon Diggs	MIN	13	1.14
AJ Green	CIN	16	1.14
Julio Jones	ATL	16	1.12
Travis Benjamin	CLE	16	1.12
Brandin Cooks	NO	16	1.11
Jordan Matthews	PHI	16	1.11
DeAndre Hopkins	HOU	16	1.10
Julian Edelman	NE	9	1.08
Larry Fitzgerald	AZ	16	1.07
Markus Wheaton	PIT	16	1.07
Antonio Brown	PIT	16	1.06
Demaryius Thomas	DEN	16	1.06
Willie Snead	NO	15	1.06
Anquan Boldin	SF	14	1.05
TY Hilton	IND	16	1.05
Pierre Garcon	WSH	16	1.04
Cole Beasley	DAL	16	1.03
Emmanuel Sanders	DEN	15	1.03
Jermaine Kearse	SEA	16	1.03
Alshon Jeffery	CHI	9	1.02
Calvin Johnson	DET	16	1.02
Golden Tate	DET	16	1.00
Kamar Aiken	BAL	16	1.00
Keenan Allen	SD	8	0.99

Name	Team	Games	Average AIR
Tavon Austin	STL	16	0.99
Michael Crabtree	OAK	16	0.98
Tyler Lockett	SEA	16	0.97
Amari Cooper	OAK	16	0.96
Michael Floyd	AZ	15	0.96
Nate Washington	HOU	13	0.95
Danny Amendola	NE	14	0.94
Randall Cobb	GB	16	0.94
Jarvis Landry	MIA	16	0.93
Martavis Bryant	PIT	11	0.93
Mike Evans	TB	15	0.88
Marvin Jones	CIN	16	0.85

With both sets of data in hand, we can now view the difference between the two. Since the focus is now on Average AIR, we'll take that value and subtract the seasonal AIR value from it, illustrating the differences. They are sorted below in a descending manner:

Name	Team	Games	Average AIR	AIR	Difference
Ted Ginn	CAR	14	1.15	1.02	0.13
Pierre Garcon	WSH	16	1.04	0.93	0.11
Eric Decker	NYJ	15	1.27	1.19	0.08
Travis Benjamin	CLE	16	1.12	1.05	0.07
Terrance Williams	DAL	16	1.18	1.12	0.06
Donte Moncrief	IND	16	1.19	1.13	0.06
John Brown	AZ	15	1.16	1.11	0.05
Allen Hurns	JAX	15	1.35	1.30	0.05
Golden Tate	DET	16	1.00	0.95	0.05
Demaryius Thomas	DEN	16	1.06	1.03	0.03
Larry Fitzgerald	AZ	16	1.07	1.05	0.02
Willie Snead	NO	15	1.06	1.04	0.02
Michael Crabtree	OAK	16	0.98	0.97	0.01
Rueben Randle	NYG	16	1.22	1.21	0.01
Odell Beckham	NYG	15	1.20	1.19	0.01
Anquan Boldin	SF	14	1.05	1.04	0.01
AJ Green	CIN	16	1.14	1.13	0.01
Stefon Diggs	MIN	13	1.14	1.14	0.00
Brandin Cooks	NO	16	1.11	1.11	0.00
Brandon Marshall	NYJ	16	1.22	1.23	-0.01

Name	Team	Games	Average AIR	AIR	Difference
Nate Washington	HOU	13	0.95	0.96	-0.01
Markus Wheaton	PIT	16	1.07	1.08	-0.01
Jeremy Maclin	KC	15	1.18	1.19	-0.01
Jarvis Landry	MIA	16	0.93	0.95	-0.02
Randall Cobb	GB	16	0.94	0.96	-0.02
Julio Jones	ATL	16	1.12	1.14	-0.02
Alshon Jeffery	CHI	9	1.02	1.05	-0.03
DeAndre Hopkins	HOU	16	1.10	1.13	-0.03
Calvin Johnson	DET	16	1.02	1.05	-0.03
Danny Amendola	NE	14	0.94	0.97	-0.03
TY Hilton	IND	16	1.05	1.08	-0.03
Allen Robinson	JAX	16	1.18	1.21	-0.03
Julian Edelman	NE	9	1.08	1.12	-0.04
James Jones	GB	16	1.14	1.18	-0.04
Mike Evans	TB	15	0.88	0.93	-0.05
Marvin Jones	CIN	16	0.85	0.90	-0.05
Jordan Matthews	PHI	16	1.11	1.16	-0.05
Amari Cooper	OAK	16	0.96	1.01	-0.05
Doug Baldwin	SEA	16	1.29	1.35	-0.06
Antonio Brown	PIT	16	1.06	1.13	-0.07
Kamar Aiken	BAL	16	1.00	1.07	-0.07
Emmanuel Sanders	DEN	15	1.03	1.10	-0.07
Martavis Bryant	PIT	11	0.93	1.01	-0.08
Michael Floyd	AZ	15	0.96	1.06	-0.10
Keenan Allen	SD	8	0.99	1.11	-0.12
Tavon Austin	STL	16	0.99	1.11	-0.12
Jermaine Kearse	SEA	16	1.03	1.16	-0.13
Sammy Watkins	BUF	13	1.24	1.38	-0.14
Cole Beasley	DAL	16	1.03	1.20	-0.17
Tyler Lockett	SEA	16	0.97	1.17	-0.20

Once again, you can draw your own conclusions from the above. Personally, I'd prefer the players at the top portion of the list, as they appear to show more consistency on a weekly basis, regardless of volume. But rational minds may differ.

Speaking to that consistency – onto the next chapter!

2015 WEEKLY AIR TIER PERCENTAGES

When I broached the concept of weekly AIR scores last chapter, it was with the singular goal to aggregate them and calculate Average AIR values for each receiver. As I mentioned, those scores could yield insight into a player's true consistency across a season. With the mitigation of volume, data points were effectively normalized into the same frame of reference.

From there, I now want to add a qualitative aspect to the quantitative values (don't worry, I'll make it quantitative again later!). Much like what I did in last year's AIR Affair, I've broken each weekly endeavor into five categories: Superstar, Above Average, About Average, Below Average, and Tank. Given the higher variability of single game sample sizes (i.e. touchdowns loom larger, and the quarterback's performance towards the team's other pass catchers gains more importance), I've come up with the following constraints for each category:

Game Type	Weekly AIR
Tank	≤ 0.64
Below Average	0.65 - 0.89
About Average	0.90 - 1.10
Above Average	1.11 - 1.35
Superstar	≥ 1.36

Once again, the values at either end of the spectrum are largely unattainable, with only **Sammy Watkins** besting the Superstar threshold (**Doug Baldwin** was close) over the duration of the season, and none of the players chronicled even sinking beneath into the Below Average line. However, as noted above, smaller samples breed larger deviations, and lines had to be drawn in a subjectively objective manner.

Without further preamble, let's dive into each player's tier percentages, sorted alphabetically. The averages are listed at the bottom, color coded in a traffic light "heat map" manner (green is good, red is bad), with the exception of the About Average tier (it's truthfully neither good nor bad to be average):

Name	Team	Games	Superstar	Above Average	About Average	Below Average	Tank
Allen Hurns	JAX	15	53.3	13.3	6.7	20.0	6.7
Allen Robinson	JAX	16	31.3	31.3	12.5	18.8	6.3
Alshon Jeffery	CHI	9	11.1	22.2	33.3	22.2	11.1
Amari Cooper	OAK	16	18.8	6.3	25.0	25.0	25.0
Anquan Boldin	SF	14	21.4	21.4	35.7	7.1	14.3
Antonio Brown	PIT	16	18.8	31.3	18.8	18.8	12.5
Brandin Cooks	NO	16	18.8	31.3	18.8	31.3	0.0
Brandon Marshall	NYJ	16	25.0	37.5	25.0	12.5	0.0

Name	Team	Games	Superstar	Above Average	About Average	Below Average	Tank
Calvin Johnson	DET	16	6.3	18.8	56.3	12.5	6.3
Cole Beasley	DAL	16	43.8	12.5	0.0	12.5	31.3
Danny Amendola	NE	14	14.3	14.3	28.6	21.4	21.4
DeAndre Hopkins	HOU	16	12.5	43.8	25.0	12.5	6.3
Demaryius Thomas	DEN	16	18.8	18.8	37.5	18.8	6.3
Donte Moncrief	IND	16	25.0	18.8	25.0	12.5	18.8
Doug Baldwin	SEA	16	56.3	6.3	0.0	37.5	0.0
Emmanuel Sanders	DEN	15	26.7	26.7	20.0	0.0	26.7
Eric Decker	NYJ	15	33.3	26.7	26.7	13.3	0.0
Golden Tate	DET	16	18.8	12.5	37.5	12.5	18.8
James Jones	GB	16	37.5	12.5	0.0	25.0	25.0
Jarvis Landry	MIA	16	12.5	6.3	25.0	37.5	18.8
Jeremy Maclin	KC	15	33.3	20.0	20.0	6.7	20.0
Jermaine Kearse	SEA	16	37.5	6.3	12.5	12.5	31.3
John Brown	AZ	15	33.3	20.0	20.0	20.0	6.7
Jordan Matthews	PHI	16	37.5	12.5	6.3	25.0	18.8
Julian Edelman	NE	9	11.1	22.2	22.2	44.4	0.0
Julio Jones	ATL	16	18.8	31.3	37.5	12.5	0.0
Kamar Aiken	BAL	16	25.0	18.8	18.8	12.5	25.0
Keenan Allen	SD	8	12.5	37.5	0.0	37.5	12.5
Larry Fitzgerald	AZ	16	18.8	12.5	37.5	25.0	6.3
Markus Wheaton	PIT	16	25.0	0.0	25.0	25.0	25.0
Martavis Bryant	PIT	11	9.1	27.3	9.1	27.3	27.3
Marvin Jones	CIN	16	6.3	12.5	25.0	37.5	18.8
Michael Crabtree	OAK	16	18.8	12.5	25.0	37.5	6.3
Michael Floyd	AZ	15	13.3	26.7	26.7	6.7	26.7
Mike Evans	TB	15	6.7	26.7	20.0	26.7	20.0
Nate Washington	HOU	13	23.1	15.4	15.4	15.4	30.8
Odell Beckham	NYG	15	26.7	33.3	26.7	6.7	6.7
Pierre Garcon	WSH	16	18.8	31.3	6.3	31.3	12.5
Randall Cobb	GB	16	6.3	18.8	25.0	37.5	12.5
Rueben Randle	NYG	16	37.5	25.0	12.5	6.3	18.8
Sammy Watkins	BUF	13	38.5	23.1	23.1	0.0	15.4
Stefon Diggs	MIN	13	23.1	30.8	7.7	30.8	7.7
Tavon Austin	STL	16	25.0	18.8	0.0	25.0	31.3
Ted Ginn	CAR	14	14.3	14.3	14.3	21.4	35.7
Terrance Williams	DAL	16	43.8	0.0	18.8	18.8	18.8

Name	Team	Games	Superstar	Above Average	About Average	Below Average	Tank
Travis Benjamin	CLE	16	12.5	12.5	25.0	43.8	6.3
Tyler Lockett	SEA	16	18.8	18.8	25.0	12.5	25.0
Willie Snead	NO	15	20.0	13.3	26.7	26.7	13.3
AJ Green	CIN	16	37.5	18.8	6.3	25.0	12.5
TY Hilton	IND	16	25.0	12.5	18.8	31.3	12.5
Average	-	-	*23.6*	*19.7*	*20.3*	*21.2*	*15.2*

As a reminder, week by week breakdowns for each player are included in the Addendum, and my brief thoughts on much of the above can be found in the Conclusion chapter.

Next, I want to sort the output by category, highlighting top (and bottom) performers for the qualitative categories above. Let's start by sorting the players according to their percentage of Superstar tier games (sorted in a descending manner with the same traffic light heat map pattern above). Note that the average for this category was 23.6%.

Name	Team	Games	Superstar
Doug Baldwin	SEA	16	56.3
Allen Hurns	JAX	15	53.3
Cole Beasley	DAL	16	43.8
Terrance Williams	DAL	16	43.8
Sammy Watkins	BUF	13	38.5
James Jones	GB	16	37.5
Jermaine Kearse	SEA	16	37.5
Jordan Matthews	PHI	16	37.5
Rueben Randle	NYG	16	37.5
AJ Green	CIN	16	37.5
Eric Decker	NYJ	15	33.3
Jeremy Maclin	KC	15	33.3
John Brown	AZ	15	33.3
Allen Robinson	JAX	16	31.3
Emmanuel Sanders	DEN	15	26.7
Odell Beckham	NYG	15	26.7
Brandon Marshall	NYJ	16	25.0
Donte Moncrief	IND	16	25.0
Kamar Aiken	BAL	16	25.0
Markus Wheaton	PIT	16	25.0
Tavon Austin	STL	16	25.0
TY Hilton	IND	16	25.0

Name	Team	Games	Superstar
Nate Washington	HOU	13	23.1
Stefon Diggs	MIN	13	23.1
Anquan Boldin	SF	14	21.4
Willie Snead	NO	15	20.0
Amari Cooper	OAK	16	18.8
Antonio Brown	PIT	16	18.8
Brandin Cooks	NO	16	18.8
Demaryius Thomas	DEN	16	18.8
Golden Tate	DET	16	18.8
Julio Jones	ATL	16	18.8
Larry Fitzgerald	AZ	16	18.8
Michael Crabtree	OAK	16	18.8
Pierre Garcon	WSH	16	18.8
Tyler Lockett	SEA	16	18.8
Danny Amendola	NE	14	14.3
Ted Ginn	CAR	14	14.3
Michael Floyd	AZ	15	13.3
DeAndre Hopkins	HOU	16	12.5
Jarvis Landry	MIA	16	12.5
Keenan Allen	SD	8	12.5
Travis Benjamin	CLE	16	12.5
Alshon Jeffery	CHI	9	11.1
Julian Edelman	NE	9	11.1
Martavis Bryant	PIT	11	9.1
Mike Evans	TB	15	6.7
Marvin Jones	CIN	16	6.3
Calvin Johnson	DET	16	6.3
Randall Cobb	GB	16	6.3
Average	-	-	*23.6*

From here, we can bump down a tier and aggregate the performances of Superstar + Above Average weeks. The combination of these two tiers is reflective of, well, at least above average efficiency for that percentage of games. The average for this grouping was calculated to be 43.3%, and the players are sorted in a descending manner:

Name	Team	Games	Superstar + Above Average
Allen Hurns	JAX	15	66.7
Allen Robinson	JAX	16	62.5
Brandon Marshall	NYJ	16	62.5
Doug Baldwin	SEA	16	62.5
Rueben Randle	NYG	16	62.5
Sammy Watkins	BUF	13	61.5
Eric Decker	NYJ	15	60.0
Odell Beckham	NYG	15	60.0
Cole Beasley	DAL	16	56.3
DeAndre Hopkins	HOU	16	56.3
AJ Green	CIN	16	56.3
Stefon Diggs	MIN	13	53.8
Emmanuel Sanders	DEN	15	53.3
Jeremy Maclin	KC	15	53.3
John Brown	AZ	15	53.3
Antonio Brown	PIT	16	50.0
Brandin Cooks	NO	16	50.0
James Jones	GB	16	50.0
Jordan Matthews	PHI	16	50.0
Julio Jones	ATL	16	50.0
Keenan Allen	SD	8	50.0
Pierre Garcon	WSH	16	50.0
Donte Moncrief	IND	16	43.8
Jermaine Kearse	SEA	16	43.8
Kamar Aiken	BAL	16	43.8
Tavon Austin	STL	16	43.8
Terrance Williams	DAL	16	43.8
Anquan Boldin	SF	14	42.9
Michael Floyd	AZ	15	40.0
Nate Washington	HOU	13	38.5
Demaryius Thomas	DEN	16	37.5
Tyler Lockett	SEA	16	37.5
TY Hilton	IND	16	37.5
Martavis Bryant	PIT	11	36.4
Mike Evans	TB	15	33.3
Willie Snead	NO	15	33.3
Alshon Jeffery	CHI	9	33.3
Julian Edelman	NE	9	33.3

Name	Team	Games	Superstar + Above Average
Golden Tate	DET	16	31.3
Larry Fitzgerald	AZ	16	31.3
Michael Crabtree	OAK	16	31.3
Danny Amendola	NE	14	28.6
Ted Ginn	CAR	14	28.6
Amari Cooper	OAK	16	25.0
Calvin Johnson	DET	16	25.0
Markus Wheaton	PIT	16	25.0
Randall Cobb	GB	16	25.0
Travis Benjamin	CLE	16	25.0
Marvin Jones	CIN	16	18.8
Jarvis Landry	MIA	16	18.8
Average	-	-	*43.3*

Taking it one step further, I'll now drop down one more tier level, summing up the percentages of Superstar + Above Average + About Average performances. In other words, the table below (heat map, traffic light, descending manner, etc.) shows the percentage of games each player effectively did the bare minimum that was expected of him. The average for this grouping was tabulated to be 63.6%, a value that shouldn't come as much of a surprise – remember, this is the cream of the crop we're talking about here, so they *should* be average or better for the majority of the time:

Name	Team	Games	Superstar + Above/About Average
Brandon Marshall	NYJ	16	87.5
Julio Jones	ATL	16	87.5
Eric Decker	NYJ	15	86.7
Odell Beckham	NYG	15	86.7
Sammy Watkins	BUF	13	84.6
Calvin Johnson	DET	16	81.3
DeAndre Hopkins	HOU	16	81.3
Anquan Boldin	SF	14	78.6
Allen Robinson	JAX	16	75.0
Demaryius Thomas	DEN	16	75.0
Rueben Randle	NYG	16	75.0
Allen Hurns	JAX	15	73.3
Emmanuel Sanders	DEN	15	73.3
Jeremy Maclin	KC	15	73.3
John Brown	AZ	15	73.3
Antonio Brown	PIT	16	68.8

Name	Team	Games	Superstar + Above/About Average
Brandin Cooks	NO	16	68.8
Donte Moncrief	IND	16	68.8
Golden Tate	DET	16	68.8
Larry Fitzgerald	AZ	16	68.8
Michael Floyd	AZ	15	66.7
Alshon Jeffery	CHI	9	66.7
Doug Baldwin	SEA	16	62.5
Kamar Aiken	BAL	16	62.5
Terrance Williams	DAL	16	62.5
Tyler Lockett	SEA	16	62.5
AJ Green	CIN	16	62.5
Stefon Diggs	MIN	13	61.5
Willie Snead	NO	15	60.0
Danny Amendola	NE	14	57.1
Cole Beasley	DAL	16	56.3
Jermaine Kearse	SEA	16	56.3
Jordan Matthews	PHI	16	56.3
Michael Crabtree	OAK	16	56.3
Pierre Garcon	WSH	16	56.3
TY Hilton	IND	16	56.3
Julian Edelman	NE	9	55.6
Nate Washington	HOU	13	53.8
Mike Evans	TB	15	53.3
Amari Cooper	OAK	16	50.0
James Jones	GB	16	50.0
Keenan Allen	SD	8	50.0
Markus Wheaton	PIT	16	50.0
Randall Cobb	GB	16	50.0
Travis Benjamin	CLE	16	50.0
Martavis Bryant	PIT	11	45.5
Marvin Jones	CIN	16	43.8
Jarvis Landry	MIA	16	43.8
Tavon Austin	STL	16	43.8
Ted Ginn	CAR	14	42.9
Average	-	-	*63.6*

From this point on we can segue into the underwhelming weeks. There's truthfully no point in summing up the Below Average + Tank games, as it's merely the table above, with the values

reading "100 – [Rightmost column value]," and the order unchanging. Instead I'll cap this section off by aggregating the percentages of Tank performances for each player. As the mirror image of the Superstar tier, this means that for the percentages of games below, the player was effectively tanking his team's fantasy efforts with bottom barrel efficiency. Put another way, in order for the player to be successful during those weeks, he would've needed a boatload of volume to mitigate his per-target woes. The average for this group was found to be 15.2%, and the values are sorted in an *ascending* manner as shown below:

Name	Team	Games	Tank
Brandin Cooks	NO	16	0.0
Brandon Marshall	NYJ	16	0.0
Doug Baldwin	SEA	16	0.0
Eric Decker	NYJ	15	0.0
Julian Edelman	NE	9	0.0
Julio Jones	ATL	16	0.0
Allen Robinson	JAX	16	6.3
Calvin Johnson	DET	16	6.3
DeAndre Hopkins	HOU	16	6.3
Demaryius Thomas	DEN	16	6.3
Larry Fitzgerald	AZ	16	6.3
Michael Crabtree	OAK	16	6.3
Travis Benjamin	CLE	16	6.3
Allen Hurns	JAX	15	6.7
John Brown	AZ	15	6.7
Odell Beckham	NYG	15	6.7
Stefon Diggs	MIN	13	7.7
Alshon Jeffery	CHI	9	11.1
Antonio Brown	PIT	16	12.5
Keenan Allen	SD	8	12.5
Pierre Garcon	WSH	16	12.5
Randall Cobb	GB	16	12.5
AJ Green	CIN	16	12.5
TY Hilton	IND	16	12.5
Willie Snead	NO	15	13.3
Anquan Boldin	SF	14	14.3
Sammy Watkins	BUF	13	15.4
Donte Moncrief	IND	16	18.8
Golden Tate	DET	16	18.8
Jarvis Landry	MIA	16	18.8
Jordan Matthews	PHI	16	18.8

Name	Team	Games	Tank
Marvin Jones	CIN	16	18.8
Rueben Randle	NYG	16	18.8
Terrance Williams	DAL	16	18.8
Jeremy Maclin	KC	15	20.0
Mike Evans	TB	15	20.0
Danny Amendola	NE	14	21.4
Amari Cooper	OAK	16	25.0
James Jones	GB	16	25.0
Kamar Aiken	BAL	16	25.0
Markus Wheaton	PIT	16	25.0
Tyler Lockett	SEA	16	25.0
Emmanuel Sanders	DEN	15	26.7
Michael Floyd	AZ	15	26.7
Martavis Bryant	PIT	11	27.3
Nate Washington	HOU	13	30.8
Cole Beasley	DAL	16	31.3
Jermaine Kearse	SEA	16	31.3
Tavon Austin	STL	16	31.3
Ted Ginn	CAR	14	35.7
Average	-	-	*15.2*

With that table in hand, this chapter is now in the (figurative and literal) books. Fear not, the AIR metric will return later, but I now want to transition into a topic that often gets lost when we talk about fantasy proficiency – how good is a player in *real life*? Onto the next chapter!

THE FIRST DOWN RATIO (FDR)

We've all heard the phrase "He's a better NFL player than a fantasy player." What I glean from that is we're talking about a guy who helps the offense in ways that might not show up on the fantasy stat sheet, and if they do it's in a far too intermittent and unreliable fashion. We've also seen the opposite, manifested in players who might not be transcendent talents on the field, but due to some combination of volume, garbage time, and the like are able to post numbers where it matters to us – in our weekly fantasy team output.

But why can't we have both? Taking it one step further, why can't we evaluate both, and attempt to use one as a predictor for the other? Let me explain.

I'm of the belief that if a player is doing his job on the field, it stands to reason he'll remain on the field because the coaches will be happy with his performance. The more the player is on the field, the more theoretically likely it is that he'll be able to receive a greater proportion of the team's offensive touches. And of course, the more touches he receives, the more likely it is that said touches will be able to translate into fantasy points, ultimately impacting our bottom line.

With that said, what qualifies as "doing your job?" I'm no film expert and I'll never pretend to be, so I can't speak to route running, or whether a player is performing his assignment to the best of his abilities. We at DLF have plenty of guys familiar with scouting and they can speak much better to that aspect of real life football than I can. But even with that, there are just too many players and too many snaps to be able to see every single pertinent player – even receiver guru Matt Harmon picks half of each player's games to evaluate in his popular Reception Perception series, and has no way of digging into *every* pass catcher out there.

So given my prior quantitative methodologies, in order to best evaluate real life performance, I sought to break this topic down into two questions I felt confident in answering:

1. What is the goal of every NFL play?
2. Can it be quantified?

To me, the goal of every NFL play is simple. There is a set point on the field that the offense is trying to get the ball to, or past – the first down marker. Whether it's between the 20s, or even in the red zone or at the goal line, achieving a first down signifies that the offense achieved its objective. And if the offense achieved its objective, they get another set of downs to do the same thing yet again (unless they scored).

Now, I understand it's a bit of a leap of faith to lump touchdowns in with any standard first down play. But again, to me it's one in the same – the offense needed to cross a line, and they did it. Agree or disagree, that's my take and I'm sticking to it!

Now to the next question…

Yes, we can absolutely quantify first downs, perhaps just not in the manner you'd expect. Once again, I want to look towards efficiency instead of aggregate numbers. This effectively factors in target share, while also normalizing the scope of each team's offense.

As such, I've come up with the First Down Ratio (FDR). It can be calculated using the following formula:

FDR = (Player First Downs ÷ Team First Downs) / (Player Targets ÷ Team Targets)

If this looks familiar, it's not surprising. FDR basically reflects the AIR formula, replacing player and team PPR points with first downs. The premise even remains the same – better passing offenses will have more passing first downs, with the opposite holding true for bad passing offenses. FDR mitigates this, rendering the tabulated outputs as standardized values across the entire NFL.

So who were the top NFL receivers last year? The table below shows exactly that, with FDR sorted in a descending manner (traffic light heat map as per the previous chapter):

Name	Team	First Downs	Team First Downs	Targets	Team Targets	FDR
Alshon Jeffery	CHI	43	177	94	523	1.35
Kamar Aiken	BAL	53	211	126	676	1.35
Sammy Watkins	BUF	41	155	93	465	1.32
Eric Decker	NYJ	60	210	132	604	1.31
James Jones	GB	39	173	99	573	1.30
Allen Hurns	JAC	48	215	105	607	1.29
DeAndre Hopkins	HOU	83	210	192	619	1.27
Odell Beckham Jr	NYG	67	208	158	623	1.27
Brandon Marshall	NYJ	76	210	173	604	1.26
AJ Green	CIN	63	191	132	505	1.26
Jermaine Kearse	SEA	32	190	66	489	1.25
Cole Beasley	DAL	31	175	75	528	1.25
Antonio Brown	PIT	84	207	193	590	1.24
Julio Jones	ATL	93	230	203	621	1.24
Donte Moncrief	IND	40	195	105	619	1.21
Jeremy Maclin	KC	49	155	124	473	1.21
Terrance Williams	DAL	36	175	91	528	1.19
Doug Baldwin	SEA	47	190	103	489	1.17
Tyler Lockett	SEA	31	190	68	489	1.17
Calvin Johnson	DET	65	236	149	632	1.17
Willie Snead	NO	44	247	102	667	1.16

Name	Team	First Downs	Team First Downs	Targets	Team Targets	FDR
Rueben Randle	NYG	35	208	90	623	1.16
TY Hilton	IND	49	195	134	619	1.16
Mike Evans	TB	63	201	145	535	1.16
Julian Edelman	NE	37	229	88	629	1.15
Markus Wheaton	PIT	32	207	79	590	1.15
John Brown	ARI	49	237	101	562	1.15
Allen Robinson	JAC	61	215	151	607	1.14
Emmanuel Sanders	DEN	51	201	137	606	1.12
Jordan Matthews	PHI	44	193	128	623	1.11
Keenan Allen	SD	34	230	89	667	1.11
Stefon Diggs	MIN	31	153	84	454	1.10
Jarvis Landry	MIA	60	194	167	588	1.09
Amari Cooper	OAK	45	193	130	605	1.09
Randall Cobb	GB	42	173	129	573	1.08
Michael Floyd	ARI	40	237	88	562	1.08
Anquan Boldin	SF	35	154	111	526	1.08
Demaryius Thomas	DEN	63	201	177	606	1.07
Larry Fitzgerald	ARI	65	237	146	562	1.06
Golden Tate	DET	50	236	129	632	1.04
Nate Washington	HOU	33	210	94	619	1.03
Pierre Garcon	WAS	43	208	111	555	1.03
Danny Amendola	NE	32	229	87	629	1.01
Travis Benjamin	CLE	39	192	125	609	0.99
Michael Crabtree	OAK	45	193	146	605	0.97
Ted Ginn Jr	CAR	36	197	97	501	0.94
Brandin Cooks	NO	45	247	129	667	0.94
Tavon Austin	STL	21	126	87	473	0.91
Marvin Jones	CIN	33	191	103	505	0.85
Martavis Bryant	PIT	25	207	92	590	0.77
Average	-	-	-	-	-	*1.14*

So now that we've covered both fantasy and NFL efficiency, it stands to reason there should be a way to combine them. As it turns out, I'll attempt just that in the next chapter!

THE NEW DEAL AND RECONCILING REAL FOOTBALL WITH FANTASY

I'm a big Parks and Recreation fan. And much like Ben Wyatt's sequel to Cones of Dunshire, The Winds of Tremorrah, my analyses can often likely be described as "punishingly intricate." Much of that is in search of what lies far beneath the surface, and I obviously believe that can be a fruitful endeavor – but when we blur the lines of real and fake, things can get hazy.

Regardless, I believe it's prudent to, at the very least, attempt to reconcile what happens between the white lines of an NFL field with the production we find in our fantasy box scores each and every Sunday. As I've already presented two metrics in FDR and AIR that do both of those things, respectively, it's time to combine them in a few different ways in order to squeeze blood from a stone and glean every comparative and combinatory piece of empirical evidence that we can. And since the FDR metric is just so darn presidential, I'll start with my first offshoot – the New Deal.

(Because that was a big program by FDR – get it???)

As I stated in the last chapter, I believe a player who has above average or better real life value is one who's likely to get more fantasy opportunities. I used first downs as my basis for NFL value, blissfully aware that this mitigated the importance of the king of all first downs – the touchdown. My rationale is simple – even though the end result is six points, a touchdown remains the "line to get," just like any other "line to get." Obviously touchdowns are important, but they wouldn't happen if the team didn't achieve enough first downs to get them in a position to score in the first place (barring the occasional long play score or short yardage drive).

Ultimately, therein lies the juxtaposition. If you break it down numerically, the minimum value of a touchdown in a fantasy PPR setting is 7.1 PPR points (1 PPR + 6 TD + 0.1 yards), assuming a one-yard scoring play. This same result in the middle of the field would only yield 1.1 points, and as such it's easy to see how the AIR metric is influenced by passing scores. FDR, on the other hand, doesn't discriminate – once again, a first down is a first down.

So given that understanding, and once again taking the leap that all first downs are created equal, we have a direct means of comparison. Both AIR and FDR are unit-less ratios, meaning all sorts of mathematical functions are available. Circling back to a few paragraphs ago, we can now let the fantasy and real world values collide.

The New Deal metric is relatively straightforward, and can be calculated using the following formula:

New Deal = FDR / AIR

The purpose of the New Deal has already been alluded to above. We're taking the FDR numerator, which solely evaluates a player's efficiency of producing first downs and provides

no additional weighting factor to touchdowns, and dividing it by the AIR denominator, which is heavily influenced by scoring plays. I don't want to call it substance over style, because touchdowns are incredibly important to the fantasy bottom line, but the New Deal metric can effectively filter out the "wow factor" and highlight players who might seem otherwise undervalued if fantasy impact is the only consideration.

So before I drone on any longer, let's get to the numbers! The New Deal calculations are shown below, sorted in a descending manner (traffic light heat map shown again for aesthetic goodness):

Name	Team	FDR	AIR	New Deal
Alshon Jeffery	CHI	1.35	1.05	1.29
Kamar Aiken	BAL	1.35	1.07	1.26
Mike Evans	TB	1.16	0.93	1.25
Jarvis Landry	MIA	1.09	0.95	1.15
DeAndre Hopkins	HOU	1.27	1.13	1.13
Randall Cobb	GB	1.08	0.96	1.12
Willie Snead	NO	1.16	1.04	1.12
AJ Green	CIN	1.26	1.13	1.11
Calvin Johnson	DET	1.17	1.05	1.11
Pierre Garcon	WAS	1.03	0.93	1.11
James Jones	GB	1.30	1.18	1.10
Antonio Brown	PIT	1.24	1.13	1.10
Eric Decker	NYJ	1.31	1.19	1.10
Golden Tate	DET	1.04	0.95	1.09
Julio Jones	ATL	1.24	1.14	1.09
Nate Washington	HOU	1.03	0.96	1.08
Jermaine Kearse	SEA	1.25	1.16	1.08
TY Hilton	IND	1.16	1.08	1.07
Amari Cooper	OAK	1.09	1.01	1.07
Donte Moncrief	IND	1.21	1.13	1.07
Odell Beckham Jr	NYG	1.27	1.19	1.07
Markus Wheaton	PIT	1.15	1.08	1.07
Terrance Williams	DAL	1.19	1.12	1.07
Demaryius Thomas	DEN	1.07	1.03	1.04
Cole Beasley	DAL	1.25	1.20	1.04
Danny Amendola	NE	1.01	0.97	1.04
John Brown	ARI	1.15	1.11	1.04
Anquan Boldin	SF	1.08	1.04	1.03
Julian Edelman	NE	1.15	1.12	1.03

Name	Team	FDR	AIR	New Deal
Brandon Marshall	NYJ	1.26	1.23	1.03
Emmanuel Sanders	DEN	1.12	1.10	1.02
Michael Floyd	ARI	1.08	1.06	1.02
Jeremy Maclin	KC	1.21	1.19	1.01
Tyler Lockett	SEA	1.17	1.17	1.00
Larry Fitzgerald	ARI	1.06	1.05	1.00
Keenan Allen	SD	1.11	1.11	1.00
Michael Crabtree	OAK	0.97	0.97	1.00
Allen Hurns	JAC	1.29	1.30	0.99
Rueben Randle	NYG	1.16	1.21	0.96
Stefon Diggs	MIN	1.10	1.14	0.96
Sammy Watkins	BUF	1.32	1.38	0.96
Jordan Matthews	PHI	1.11	1.16	0.96
Travis Benjamin	CLE	0.99	1.05	0.95
Marvin Jones	CIN	0.85	0.90	0.94
Allen Robinson	JAC	1.14	1.21	0.94
Ted Ginn Jr	CAR	0.94	1.02	0.92
Doug Baldwin	SEA	1.17	1.35	0.87
Brandin Cooks	NO	0.94	1.11	0.85
Tavon Austin	STL	0.91	1.11	0.81
Martavis Bryant	PIT	0.77	1.01	0.76
Average	-	-	-	*1.04*

While the numbers above are certainly useful, they don't tell the full story. To illustrate this point let's cherry pick two example: **Sammy Watkins** and **Randall Cobb**. Watkins was transcendent in both the FDR (1.32) and AIR (1.38) metrics, but because the former is smaller than the latter he finds himself well down the list on the negative side of the ledger. Conversely, Cobb produced a mediocre FDR value, but when compared to his below average AIR metric, the resultant New Deal score left him smelling like roses.

Regardless, the exercise here was to try and gauge which players offered more in real life than they did in fantasy. This fundamentally renders the magnitude of the component numbers as unimportant, since the relative ratio is what we're seeking. Once again though, this remains just a piece of the puzzle, and it's imperative to view each player as both an individual as well as a member of the grouping above. In other words, make sure you're viewing both the forest *and* the trees!

My next metric doesn't apply any additional weighting to either FDR or AIR, and is simply an additive measure, titled SumR (Sum of Ratios). It merges each player's fantasy efficiency with

his real life prowess, with the larger numbers obviously being better. The SumR calculations are shown below, as per the usual pattern:

Name	Team	FDR	AIR	SumR
Sammy Watkins	BUF	1.32	1.38	2.70
Allen Hurns	JAC	1.29	1.30	2.59
Doug Baldwin	SEA	1.17	1.35	2.53
Eric Decker	NYJ	1.31	1.19	2.50
Brandon Marshall	NYJ	1.26	1.23	2.49
James Jones	GB	1.30	1.18	2.49
Odell Beckham Jr	NYG	1.27	1.19	2.46
Cole Beasley	DAL	1.25	1.20	2.44
Kamar Aiken	BAL	1.35	1.07	2.42
Jermaine Kearse	SEA	1.25	1.16	2.41
DeAndre Hopkins	HOU	1.27	1.13	2.40
Jeremy Maclin	KC	1.21	1.19	2.40
Alshon Jeffery	CHI	1.35	1.05	2.40
AJ Green	CIN	1.26	1.13	2.40
Julio Jones	ATL	1.24	1.14	2.38
Rueben Randle	NYG	1.16	1.21	2.37
Antonio Brown	PIT	1.24	1.13	2.37
Allen Robinson	JAC	1.14	1.21	2.35
Tyler Lockett	SEA	1.17	1.17	2.34
Donte Moncrief	IND	1.21	1.13	2.34
Terrance Williams	DAL	1.19	1.12	2.31
Julian Edelman	NE	1.15	1.12	2.27
Jordan Matthews	PHI	1.11	1.16	2.27
John Brown	ARI	1.15	1.11	2.26
TY Hilton	IND	1.16	1.08	2.24
Markus Wheaton	PIT	1.15	1.08	2.24
Stefon Diggs	MIN	1.10	1.14	2.23
Emmanuel Sanders	DEN	1.12	1.10	2.23
Calvin Johnson	DET	1.17	1.05	2.22
Keenan Allen	SD	1.11	1.11	2.21
Willie Snead	NO	1.16	1.04	2.21
Michael Floyd	ARI	1.08	1.06	2.14
Anquan Boldin	SF	1.08	1.04	2.12
Larry Fitzgerald	ARI	1.06	1.05	2.11
Demaryius Thomas	DEN	1.07	1.03	2.10

Name	Team	FDR	AIR	SumR
Amari Cooper	OAK	1.09	1.01	2.10
Mike Evans	TB	1.16	0.93	2.08
Brandin Cooks	NO	0.94	1.11	2.05
Randall Cobb	GB	1.08	0.96	2.04
Jarvis Landry	MIA	1.09	0.95	2.04
Travis Benjamin	CLE	0.99	1.05	2.04
Tavon Austin	STL	0.91	1.11	2.02
Nate Washington	HOU	1.03	0.96	1.99
Golden Tate	DET	1.04	0.95	1.99
Danny Amendola	NE	1.01	0.97	1.98
Ted Ginn Jr	CAR	0.94	1.02	1.97
Pierre Garcon	WAS	1.03	0.93	1.97
Michael Crabtree	OAK	0.97	0.97	1.93
Martavis Bryant	PIT	0.77	1.01	1.79
Marvin Jones	CIN	0.85	0.90	1.75
Average	-	-	-	*2.23*

The last pair of metrics in this chapter accomplish more of the same, but this time using what effectively amount to weighted scores. I've taken the SumR scores shown above, and added the additional multiplicative factor of either AIR or FDR, providing an extra glimpse into who benefits most from fantasy and real life football, respectively. I've dubbed this latest metric as Optimized Receiving Excellence, or ORE for short. ORE-A denotes that AIR is the weighting factor, and ORE-F uses FDR as the multiplicative entity. The formulas are shown below:

ORE-A = AIR x SumR
ORE-F = FDR x SumR

We'll start with the results from the ORE-A calculations. Again, these numbers will slant towards the players with the greater fantasy efficiency (AIR). They can be seen below, sorted as per previous metrics:

Name	Team	AIR	SumR	ORE-A
Sammy Watkins	BUF	1.38	2.70	3.73
Doug Baldwin	SEA	1.35	2.53	3.42
Allen Hurns	JAC	1.30	2.59	3.38
Brandon Marshall	NYJ	1.23	2.49	3.05
Eric Decker	NYJ	1.19	2.50	2.98
James Jones	GB	1.18	2.49	2.94
Cole Beasley	DAL	1.20	2.44	2.92

Name	Team	AIR	SumR	ORE-A
Odell Beckham Jr	NYG	1.19	2.46	2.92
Rueben Randle	NYG	1.21	2.37	2.87
Jeremy Maclin	KC	1.19	2.40	2.86
Allen Robinson	JAC	1.21	2.35	2.85
Jermaine Kearse	SEA	1.16	2.41	2.79
Tyler Lockett	SEA	1.17	2.34	2.74
AJ Green	CIN	1.13	2.40	2.72
DeAndre Hopkins	HOU	1.13	2.40	2.71
Julio Jones	ATL	1.14	2.38	2.71
Antonio Brown	PIT	1.13	2.37	2.67
Donte Moncrief	IND	1.13	2.34	2.64
Jordan Matthews	PHI	1.16	2.27	2.63
Kamar Aiken	BAL	1.07	2.42	2.60
Terrance Williams	DAL	1.12	2.31	2.59
Stefon Diggs	MIN	1.14	2.23	2.54
Julian Edelman	NE	1.12	2.27	2.54
Alshon Jeffery	CHI	1.05	2.40	2.51
John Brown	ARI	1.11	2.26	2.50
Emmanuel Sanders	DEN	1.10	2.23	2.46
Keenan Allen	SD	1.11	2.21	2.45
TY Hilton	IND	1.08	2.24	2.42
Markus Wheaton	PIT	1.08	2.24	2.41
Calvin Johnson	DET	1.05	2.22	2.33
Willie Snead	NO	1.04	2.21	2.30
Brandin Cooks	NO	1.11	2.05	2.28
Michael Floyd	ARI	1.06	2.14	2.27
Tavon Austin	STL	1.11	2.02	2.24
Larry Fitzgerald	ARI	1.05	2.11	2.22
Anquan Boldin	SF	1.04	2.12	2.20
Demaryius Thomas	DEN	1.03	2.10	2.16
Travis Benjamin	CLE	1.05	2.04	2.13
Amari Cooper	OAK	1.01	2.10	2.12
Ted Ginn Jr	CAR	1.02	1.97	2.02
Randall Cobb	GB	0.96	2.04	1.95
Jarvis Landry	MIA	0.95	2.04	1.93
Mike Evans	TB	0.93	2.08	1.93
Danny Amendola	NE	0.97	1.98	1.92
Nate Washington	HOU	0.96	1.99	1.91

Name	Team	AIR	SumR	ORE-A
Golden Tate	DET	0.95	1.99	1.90
Michael Crabtree	OAK	0.97	1.93	1.87
Pierre Garcon	WAS	0.93	1.97	1.83
Martavis Bryant	PIT	1.01	1.79	1.81
Marvin Jones	CIN	0.90	1.75	1.57
Average	-	-	-	*2.47*

As it's possible for a receiver to have an AIR value under 1.00, some of the ORE-A values are actually shown to be smaller than the correlating SumR values. Such is life as an inefficient fantasy pass catcher, I suppose. Conversely, those who thrived in a fantasy setting saw big time increases, once again highlighting their prowess when fake football was used as a weighting factor.

Shown next are the ORE-F values. The formula was shown a few pages ago, so no more introduction is necessary:

Name	Team	FDR	SumR	ORE-F
Sammy Watkins	BUF	1.32	2.70	3.57
Allen Hurns	JAC	1.29	2.59	3.35
Eric Decker	NYJ	1.31	2.50	3.27
Kamar Aiken	BAL	1.35	2.42	3.26
James Jones	GB	1.30	2.49	3.24
Alshon Jeffery	CHI	1.35	2.40	3.24
Brandon Marshall	NYJ	1.26	2.49	3.15
Odell Beckham Jr	NYG	1.27	2.46	3.12
DeAndre Hopkins	HOU	1.27	2.40	3.06
Cole Beasley	DAL	1.25	2.44	3.05
AJ Green	CIN	1.26	2.40	3.02
Jermaine Kearse	SEA	1.25	2.41	3.00
Doug Baldwin	SEA	1.17	2.53	2.97
Julio Jones	ATL	1.24	2.38	2.94
Antonio Brown	PIT	1.24	2.37	2.94
Jeremy Maclin	KC	1.21	2.40	2.89
Donte Moncrief	IND	1.21	2.34	2.83
Rueben Randle	NYG	1.16	2.37	2.76
Terrance Williams	DAL	1.19	2.31	2.76
Tyler Lockett	SEA	1.17	2.34	2.75
Allen Robinson	JAC	1.14	2.35	2.68
Julian Edelman	NE	1.15	2.27	2.62

Name	Team	FDR	SumR	ORE-F
TY Hilton	IND	1.16	2.24	2.60
John Brown	ARI	1.15	2.26	2.60
Calvin Johnson	DET	1.17	2.22	2.59
Markus Wheaton	PIT	1.15	2.24	2.58
Willie Snead	NO	1.16	2.21	2.57
Jordan Matthews	PHI	1.11	2.27	2.52
Emmanuel Sanders	DEN	1.12	2.23	2.50
Keenan Allen	SD	1.11	2.21	2.45
Stefon Diggs	MIN	1.10	2.23	2.45
Mike Evans	TB	1.16	2.08	2.41
Michael Floyd	ARI	1.08	2.14	2.31
Anquan Boldin	SF	1.08	2.12	2.28
Amari Cooper	OAK	1.09	2.10	2.27
Demaryius Thomas	DEN	1.07	2.10	2.26
Larry Fitzgerald	ARI	1.06	2.11	2.23
Jarvis Landry	MIA	1.09	2.04	2.22
Randall Cobb	GB	1.08	2.04	2.20
Golden Tate	DET	1.04	1.99	2.07
Nate Washington	HOU	1.03	1.99	2.06
Pierre Garcon	WAS	1.03	1.97	2.03
Travis Benjamin	CLE	0.99	2.04	2.01
Danny Amendola	NE	1.01	1.98	2.00
Brandin Cooks	NO	0.94	2.05	1.93
Michael Crabtree	OAK	0.97	1.93	1.87
Ted Ginn Jr	CAR	0.94	1.97	1.86
Tavon Austin	STL	0.91	2.02	1.83
Marvin Jones	CIN	0.85	1.75	1.48
Martavis Bryant	PIT	0.77	1.79	1.38
Average	-	-	-	*2.56*

Though calculated in an analogous manner to ORE-A, ORE-F places an emphasis on real life football. Obviously the magnitude of the Sum-R will still largely carry the day once again, but the added focus shows a positive trend as it relates to on-field skill. As mentioned *ad nauseum* at this point, *that means something* – no matter what we think about a player, whether he's big or small, young or old, or fast or slow, if he produces when it counts he's likely to continue gaining more chances to keep producing.

With our brief foray into real life football concluded, I want to get back to the land of make believe. Thus far you've seen plenty of efficiency numbers, but what's been lurking in the shadows behind the "what" of the compiled metrics is the "*how?*" Moving on…

SCORING ORIGINS AND TOUCHDOWN DEPENDENCE

As we all know there are three components to PPR scoring – receptions, yards and receiving touchdowns. The latter, when compared to the former two, can often spark a sort of "ceiling versus floor" debate. As I mentioned earlier, the six points per score massively influence the fantasy bottom line, as the lowest possible fantasy score for a receiving touchdown in a PPR setting is 7.1 points.

Clearly we would all love players with an innate ability to cross the goal line at an above average frequency, as this would effectively raise their respective ceilings. However, most times touchdowns simply aren't predictable, and in this writer's opinion are more influenced by the constraints of a team's passing offense than any other receiving statistic (I'm looking at you, 2015 Denver Broncos). If the scoring plays fail to come, where can we turn to?

The answer is to look down at the metaphorical fantasy floor, which is comprised of receptions and receiving yards. At only 1 and 0.1 points per reception and yard, respectively, you're not going to get the immediate fantasy bang of a score. But if you have a player who can consistently move the chains between the 20s, you're more than likely going to have a reliable fantasy contributor.

Once again, as a staunch fantasy conservative I prefer a player with a higher floor – if he scores touchdowns that's all the better, but I view it as the cherry on top of my statistical sundae. There are many who would disagree, and I don't begrudge them that. Intelligent arguments can be made for either side. However, at the end of the day the point of these numbers isn't for me to state my opinions, it's to punch buttons on the calculator (okay, Microsoft Excel formulas) and get the hell out of the way!

As such, here's the breakdown of the next series of metrics, which gauge each player's reliance on the various components of fantasy scoring (note that once again, only receiving points are taken into account here – sorry, Tavon!):

TD % = (PPR Points from Touchdowns / Total PPR Points) x 100
Reception % = (PPR Points from Receptions / Total PPR Points) x 100
Yards % = (PPR Points from Yards / Total PPR Points) x 100

As these are the only three pieces of the pie, the numbers for each player should add up to 100%. Let's start with each player's touchdown percentages, which have been sorted in the same pattern as per previous metrics:

Name	Team	Points from TDs	PPR Points	% Points from TDs
Ted Ginn Jr	CAR	60	177.9	33.7
Doug Baldwin	SEA	84	268.9	31.2
Eric Decker	NYJ	72	254.7	28.3
Allen Robinson	JAC	84	304.0	27.6
Allen Hurns	JAC	60	227.0	26.4
Rueben Randle	NYG	48	184.7	26.0
James Jones	GB	48	187.0	25.7
Sammy Watkins	BUF	54	218.7	24.7
Brandon Marshall	NYJ	84	343.2	24.5
Odell Beckham Jr	NYG	78	319.0	24.5
Julian Edelman	NE	42	172.2	24.4
Tyler Lockett	SEA	36	153.4	23.5
Michael Crabtree	OAK	54	231.2	23.4
Tavon Austin	STL	30	129.3	23.2
Martavis Bryant	PIT	36	162.5	22.2
Cole Beasley	DAL	30	135.6	22.1
AJ Green	CIN	60	275.7	21.8
Brandin Cooks	NO	54	252.0	21.4
Michael Floyd	ARI	36	172.9	20.8
Donte Moncrief	IND	36	173.3	20.8
Jordan Matthews	PHI	48	232.7	20.6
Calvin Johnson	DET	54	263.4	20.5
Jermaine Kearse	SEA	30	147.5	20.3
John Brown	ARI	42	207.3	20.3
Markus Wheaton	PIT	30	148.9	20.1
DeAndre Hopkins	HOU	66	329.1	20.1
Jeremy Maclin	KC	48	243.8	19.7
Pierre Garcon	WAS	36	185.7	19.4
Larry Fitzgerald	ARI	54	284.5	19.0
Randall Cobb	GB	36	197.9	18.2
Nate Washington	HOU	24	136.8	17.5
Golden Tate	DET	36	207.3	17.4
Amari Cooper	OAK	36	215.0	16.7
Stefon Diggs	MIN	24	148.0	16.2
Emmanuel Sanders	DEN	36	225.5	16.0
Antonio Brown	PIT	60	379.4	15.8
Travis Benjamin	CLE	30	194.6	15.4
Alshon Jeffery	CHI	24	158.7	15.1

Name	Team	Points from TDs	PPR Points	% Points from TDs
Kamar Aiken	BAL	30	199.4	15.0
Keenan Allen	SD	24	163.5	14.7
TY Hilton	IND	30	211.4	14.2
Marvin Jones	CIN	24	170.6	14.1
Anquan Boldin	SF	24	171.9	14.0
Demaryius Thomas	DEN	36	271.4	13.3
Julio Jones	ATL	48	371.1	12.9
Danny Amendola	NE	18	147.8	12.2
Terrance Williams	DAL	18	154.0	11.7
Willie Snead	NO	18	187.0	9.6
Jarvis Landry	MIA	24	250.9	9.6
Mike Evans	TB	18	212.8	8.5
Average	-	-	-	*16.9*

As I've mentioned previously, touchdowns function as a huge driving force behind a player's overall AIR metric. And since (once again, in my opinion) they represent the most non-repeatable of the three components of receiver scoring, it becomes prudent to figure out exactly how much they swayed each player's efficiency. The table below seeks to accomplish exactly that.

Since each player now has both an established AIR score and a touchdown percentage, we can rank each and compare their overall standings in both, showing us a sort of "touchdown dependence." In other words, if the difference between ranks (TD% rank less AIR Rank) is a large positive value, it stands to reason the player was highly efficient *despite* a lack of scoring plays – in my estimation, this should be viewed as a good thing, as the player was already an asset despite having room to grow in the scoring department. On the other end of the spectrum, a large negative value means that touchdowns were a massive influencer of fantasy efficiency, and some sort of regression is likely to be expected. Once again, I'm *not saying these players should be avoided*, but more that they have ground to make up in the other categories should their trips to the end zone tail off.

The values are shown in a descending manner according to rank difference. For continuity with the previous metrics tables, I've left the traffic light heat map pattern colorations in the columns for AIR and touchdown percentage:

Name	Team	AIR	% Points from TDs	AIR Rank	TD % Rank	Difference
Julio Jones	ATL	1.14	12.9	15	45	30
Terrance Williams	DAL	1.12	11.7	21	47	26
Jeremy Maclin	KC	1.19	19.7	8	27	19
Jermaine Kearse	SEA	1.16	20.3	4	23	19
Stefon Diggs	MIN	1.14	16.2	16	34	18
Antonio Brown	PIT	1.13	15.8	20	36	16
Keenan Allen	SD	1.11	14.7	26	40	14
Willie Snead	NO	1.04	9.6	36	48	12
TY Hilton	IND	1.08	14.2	29	41	12
Cole Beasley	DAL	1.20	22.1	7	16	9
Kamar Aiken	BAL	1.07	15.0	30	39	9
Emmanuel Sanders	DEN	1.10	16.0	27	35	8
Jordan Matthews	PHI	1.16	20.6	13	21	8
DeAndre Hopkins	HOU	1.13	20.1	19	26	7
Sammy Watkins	BUF	1.38	24.7	1	8	7
Anquan Boldin	SF	1.04	14.0	37	43	6
Demaryius Thomas	DEN	1.03	13.3	38	44	6
Brandon Marshall	NYJ	1.23	24.5	4	9	5
Alshon Jeffery	CHI	1.05	15.1	34	38	4
Danny Amendola	NE	0.97	12.2	42	46	4
Allen Hurns	JAC	1.30	26.4	3	5	2
Donte Moncrief	IND	1.13	20.8	18	20	2
Jarvis Landry	MIA	0.95	9.6	47	49	2
Travis Benjamin	CLE	1.05	15.4	35	37	2
Mike Evans	TB	0.93	8.5	49	50	1
Doug Baldwin	SEA	1.35	31.2	2	2	0
Odell Beckham Jr	NYG	1.19	24.5	10	10	0
Rueben Randle	NYG	1.21	26.0	6	6	0
Tyler Lockett	SEA	1.17	23.5	12	12	0
AJ Green	CIN	1.13	21.8	17	17	0
Allen Robinson	JAC	1.21	27.6	5	4	-1
John Brown	ARI	1.11	20.3	25	24	-1
Larry Fitzgerald	ARI	1.05	19.0	32	29	-3
Markus Wheaton	PIT	1.08	20.1	28	25	-3
James Jones	GB	1.18	25.7	11	7	-4
Brandin Cooks	NO	1.11	21.4	24	18	-6
Eric Decker	NYJ	1.19	28.3	9	3	-6
Amari Cooper	OAK	1.01	16.7	41	33	-8

Name	Team	AIR	% Points from TDs	AIR Rank	TD % Rank	Difference
Marvin Jones	CIN	0.90	14.1	50	42	-8
Calvin Johnson	DET	1.05	20.5	33	22	-11
Julian Edelman	NE	1.12	24.4	22	11	-11
Michael Floyd	ARI	1.06	20.8	31	19	-12
Golden Tate	DET	0.95	17.4	46	32	-14
Nate Washington	HOU	0.96	17.5	45	31	-14
Randall Cobb	GB	0.96	18.2	44	30	-14
Tavon Austin	STL	1.11	23.2	23	4	-19
Pierre Garcon	WAS	0.93	19.4	48	28	-20
Martavis Bryant	PIT	1.01	22.2	40	15	-25
Michael Crabtree	OAK	0.97	23.4	43	13	-30
Ted Ginn Jr	CAR	1.02	33.7	39	1	-38

Next, we'll focus our gaze to the second of three modes of scoring – receptions. The following table mimics the touchdown percentage table above, but this time charts the fractions of points that came from simply catching the ball:

Name	Team	Points from Receptions	PPR Points	% Points from Receptions
Jarvis Landry	MIA	111	250.9	44.2
Danny Amendola	NE	65	147.8	44.0
Golden Tate	DET	90	207.3	43.4
Keenan Allen	SD	67	163.5	41.0
Tavon Austin	STL	52	129.3	40.2
Anquan Boldin	SF	69	171.9	40.1
Randall Cobb	GB	79	197.9	39.9
Pierre Garcon	WAS	72	185.7	38.8
Demaryius Thomas	DEN	105	271.4	38.7
Cole Beasley	DAL	52	135.6	38.3
Larry Fitzgerald	ARI	109	284.5	38.3
Marvin Jones	CIN	65	170.6	38.1
Kamar Aiken	BAL	75	199.4	37.6
Willie Snead	NO	70	187.0	37.4
Donte Moncrief	IND	64	173.3	36.9
Michael Crabtree	OAK	85	231.2	36.8
Julio Jones	ATL	136	371.1	36.6
Jordan Matthews	PHI	85	232.7	36.5
Antonio Brown	PIT	136	379.4	35.8

Name	Team	Points from Receptions	PPR Points	% Points from Receptions
Jeremy Maclin	KC	87	243.8	35.7
Julian Edelman	NE	61	172.2	35.4
Stefon Diggs	MIN	52	148.0	35.1
Travis Benjamin	CLE	68	194.6	34.9
Mike Evans	TB	74	212.8	34.8
Nate Washington	HOU	47	136.8	34.4
Alshon Jeffery	CHI	54	158.7	34.0
Terrance Williams	DAL	52	154.0	33.8
DeAndre Hopkins	HOU	111	329.1	33.7
Emmanuel Sanders	DEN	76	225.5	33.7
Amari Cooper	OAK	72	215.0	33.5
Calvin Johnson	DET	88	263.4	33.4
Brandin Cooks	NO	84	252.0	33.3
Tyler Lockett	SEA	51	153.4	33.2
Jermaine Kearse	SEA	49	147.5	33.2
TY Hilton	IND	69	211.4	32.6
Brandon Marshall	NYJ	109	343.2	31.8
Eric Decker	NYJ	80	254.7	31.4
John Brown	ARI	65	207.3	31.4
AJ Green	CIN	86	275.7	31.2
Rueben Randle	NYG	57	184.7	30.9
Martavis Bryant	PIT	50	162.5	30.8
Odell Beckham Jr	NYG	96	319.0	30.1
Michael Floyd	ARI	52	172.9	30.1
Markus Wheaton	PIT	44	148.9	29.6
Doug Baldwin	SEA	78	268.9	29.0
Allen Hurns	JAC	64	227.0	28.2
Sammy Watkins	BUF	60	218.7	27.4
James Jones	GB	50	187.0	26.7
Allen Robinson	JAC	80	304.0	26.3
Ted Ginn Jr	CAR	44	177.9	24.7
Average	-	-	-	*38.6*

Finally, let's conclude with the yard percentages, as shown in the table on the next page:

Name	Team	Points from Yards	PPR Points	% Points from Yards
Mike Evans	TB	120.8	212.8	56.8
Terrance Williams	DAL	84.0	154.0	54.5
TY Hilton	IND	112.4	211.4	53.2
Willie Snead	NO	99.0	187.0	52.9
Alshon Jeffery	CHI	80.7	158.7	50.9
Julio Jones	ATL	187.1	371.1	50.4
Emmanuel Sanders	DEN	113.5	225.5	50.3
Markus Wheaton	PIT	74.9	148.9	50.3
Amari Cooper	OAK	107.0	215.0	49.8
Travis Benjamin	CLE	96.6	194.6	49.6
Michael Floyd	ARI	84.9	172.9	49.1
Stefon Diggs	MIN	72.0	148.0	48.6
John Brown	ARI	100.3	207.3	48.4
Antonio Brown	PIT	183.4	379.4	48.3
Nate Washington	HOU	65.8	136.8	48.1
Demaryius Thomas	DEN	130.4	271.4	48.0
Sammy Watkins	BUF	104.7	218.7	47.9
Marvin Jones	CIN	81.6	170.6	47.8
James Jones	GB	89.0	187.0	47.6
Kamar Aiken	BAL	94.4	199.4	47.3
Martavis Bryant	PIT	76.5	162.5	47.1
AJ Green	CIN	129.7	275.7	47.0
Jermaine Kearse	SEA	68.5	147.5	46.4
DeAndre Hopkins	HOU	152.1	329.1	46.2
Jarvis Landry	MIA	115.9	250.9	46.2
Calvin Johnson	DET	121.4	263.4	46.1
Allen Robinson	JAC	140.0	304.0	46.1
Anquan Boldin	SF	78.9	171.9	45.9
Odell Beckham Jr	NYG	145.0	319.0	45.5
Allen Hurns	JAC	103.0	227.0	45.4
Brandin Cooks	NO	114.0	252.0	45.2
Jeremy Maclin	KC	108.8	243.8	44.6
Keenan Allen	SD	72.5	163.5	44.3
Danny Amendola	NE	64.8	147.8	43.8
Brandon Marshall	NYJ	150.2	343.2	43.8
Tyler Lockett	SEA	66.4	153.4	43.3
Rueben Randle	NYG	79.7	184.7	43.2
Jordan Matthews	PHI	99.7	232.7	42.8

Name	Team	Points from Yards	PPR Points	% Points from Yards
Larry Fitzgerald	ARI	121.5	284.5	42.7
Donte Moncrief	IND	73.3	173.3	42.3
Randall Cobb	GB	82.9	197.9	41.9
Pierre Garcon	WAS	77.7	185.7	41.8
Ted Ginn Jr	CAR	73.9	177.9	41.5
Eric Decker	NYJ	102.7	254.7	40.3
Julian Edelman	NE	69.2	172.2	40.2
Michael Crabtree	OAK	92.2	231.2	39.9
Doug Baldwin	SEA	106.9	268.9	39.8
Cole Beasley	DAL	53.6	135.6	39.5
Golden Tate	DET	81.3	207.3	39.2
Tavon Austin	STL	47.3	129.3	36.6
Average	-	-	-	*44.5*

So with all these numbers in hand, let's summarize in order to discern each player's reliance on the three components of fantasy scoring. The table below is sorted alphabetically, with the traffic light heat map colors remaining in order to view how the percentages relate to their respective averages:

Name	Team	% Points from Receptions	% Points from Yards	% Points from TDs
Allen Hurns	JAC	28.2	45.4	26.4
Allen Robinson	JAC	26.3	46.1	27.6
Alshon Jeffery	CHI	34.0	50.9	15.1
Amari Cooper	OAK	33.5	49.8	16.7
Anquan Boldin	SF	40.1	45.9	14.0
Antonio Brown	PIT	35.8	48.3	15.8
Brandin Cooks	NO	33.3	45.2	21.4
Brandon Marshall	NYJ	31.8	43.8	24.5
Calvin Johnson	DET	33.4	46.1	20.5
Cole Beasley	DAL	38.3	39.5	22.1
Danny Amendola	NE	44.0	43.8	12.2
DeAndre Hopkins	HOU	33.7	46.2	20.1
Demaryius Thomas	DEN	38.7	48.0	13.3
Donte Moncrief	IND	36.9	42.3	20.8
Doug Baldwin	SEA	29.0	39.8	31.2
Emmanuel Sanders	DEN	33.7	50.3	16.0
Eric Decker	NYJ	31.4	40.3	28.3
Golden Tate	DET	43.4	39.2	17.4

Name	Team	% Points from Receptions	% Points from Yards	% Points from TDs
James Jones	GB	26.7	47.6	25.7
Jarvis Landry	MIA	44.2	46.2	9.6
Jeremy Maclin	KC	35.7	44.6	19.7
Jermaine Kearse	SEA	33.2	46.4	20.3
John Brown	ARI	31.4	48.4	20.3
Jordan Matthews	PHI	36.5	42.8	20.6
Julian Edelman	NE	35.4	40.2	24.4
Julio Jones	ATL	36.6	50.4	12.9
Kamar Aiken	BAL	37.6	47.3	15.0
Keenan Allen	SD	41.0	44.3	14.7
Larry Fitzgerald	ARI	38.3	42.7	19.0
Markus Wheaton	PIT	29.6	50.3	20.1
Martavis Bryant	PIT	30.8	47.1	22.2
Marvin Jones	CIN	38.1	47.8	14.1
Michael Crabtree	OAK	36.8	39.9	23.4
Michael Floyd	ARI	30.1	49.1	20.8
Mike Evans	TB	34.8	56.8	8.5
Nate Washington	HOU	34.4	48.1	17.5
Odell Beckham Jr	NYG	30.1	45.5	24.5
Pierre Garcon	WAS	38.8	41.8	19.4
Randall Cobb	GB	39.9	41.9	18.2
Rueben Randle	NYG	30.9	43.2	26.0
Sammy Watkins	BUF	27.4	47.9	24.7
Stefon Diggs	MIN	35.1	48.6	16.2
Tavon Austin	STL	40.2	36.6	23.2
Ted Ginn Jr	CAR	24.7	41.5	33.7
Terrance Williams	DAL	33.8	54.5	11.7
Travis Benjamin	CLE	34.9	49.6	15.4
Tyler Lockett	SEA	33.2	43.3	23.5
Willie Snead	NO	37.4	52.9	9.6
AJ Green	CIN	31.2	47.0	21.8
TY Hilton	IND	32.6	53.2	14.2
Average	-	*38.6*	*44.5*	*16.9*

Though the above calculations are certainly useful, you're crazy if you think I'm done scouring the components of scoring. Onto the next chapter!

RELATIVE RATIOS AND POTENTIAL REPEATABILITY

Brace yourself folks, it's about to get weird up in here…

I know it might seem like I'm coming up with new metrics because I have some sort of mathematical ADHD or nervous tick, but as I've mentioned before, it's all because I'm attempting to not only summarize the year that was, but try and predict what's to come. After all, this is *dynasty league football* – winning yearly titles will always reign supreme, but picking the guys who will help us win year in and year out is the figurative "1b" here. This chapter is going to try and help you do just that.

The previous chapter did quite a bit in helping us discern the "how" behind each player's seasonal scoring output, but as always we can excavate further until we've reached the statistical core. Instead of explaining this next methodology, I'll use a player as an example.

Seattle receiver **Doug Baldwin**, at least in the eyes of many, seemingly came out of nowhere to finish the 2015 season as the PPR WR10, largely on the back of his league-leading (tied with **Brandon Marshall** and **Allen Robinson**) 14 receiving scores. This number is reflected in the previous chapter, as Baldwin's touchdown percentage of 31.2% was second only to the Panthers' **Ted Ginn**. It also helped propel him to an otherworldly AIR score of 1.35, which was second again only to Buffalo's **Sammy Watkins**.

Of course, by virtue of deriving over a third of his fantasy points from touchdowns, Baldwin's reception and yards percentages suffered relative to his peers – he finished 45th and 47th in those metrics, respectively. Once again, we're dealing with a series of three numbers that *must* add up to 100, and this is a zero-sum game. If one percentage increases, one or both of the others must diminish.

But does that mean Baldwin was below average with regards to catching the ball and gaining yards? In the words of Lee Corso, not so fast my friend…

Remember – offensive constraint matters! The Seahawks were one of the most efficient passing offenses in the league, largely because quarterback **Russell Wilson** threw for the sixth most touchdowns (34 – only two behind league leader **Tom Brady**) on the 17th most attempts, 15th most completions, and 12th most yards. In other words, the opportunity for collecting touchdowns was there, but receptions and yards were harder to come by. So that fact that Baldwin did more than he was expected to do with regards to scoring the ball should still be celebrated, but because the opportunity for receptions and yards wasn't there, at least relatively speaking, means he shouldn't be punished.

And yes, of course I have the numbers showing exactly that.

I'll start with a series of what I've termed Relative Ratios. If they look familiar, they should – when I believe in a metric I'll do whatever I can to reproduce it and populate the world with as

many statistical offspring as humanly possible (see, I told you it was about to get weird)! As such, I've once again effectively borrowed from the AIR blueprint to come up with three new ratios: the Relative Reception Ratio (RRR), Relative Yards Ratio (RYR) and Relative Touchdown Ratio (RTR). They can be calculated in the following manner:

RRR = (Player Receptions ÷ Team Receptions) / (Player Targets ÷ Team Targets)
RYR = (Player Yards ÷ Team Yards) / (Player Targets ÷ Team Targets)
RTR = (Player Touchdowns ÷ Team Touchdowns) / (Player Targets ÷ Team Targets)

What we're effectively quantifying here is the rate at which a player was able to gain receptions, yards and touchdowns given his market share of *his* offense. So for players whose percentages might lead you to believe they were poor, that could've actually been more due to aggregate team output than anything. Circling back to Baldwin, he was actually well above average with regards to all three components, despite what the last chapter might have led you to believe.

Let's jump right into it. Much like with AIR and FDR, a relative ratio of 1.00 principally states that the player did his job and met expectations – nothing more, nothing less. A ratio above 1.00 means the player was more efficient than the aggregate of the rest of his offense, and a ratio less than 1.00 means the oppose.

Let's start with RRR. The values can be shown below with the traffic light heat map coloration, and the average of the 50 receivers was found to be 0.99.

Name	Team	Receptions	Team Receptions	Targets	Team Targets	Relative Reception Ratio
Larry Fitzgerald	ARI	109	353	146	562	1.19
Danny Amendola	NE	65	404	87	629	1.16
Keenan Allen	SD	67	442	89	667	1.14
Doug Baldwin	SEA	78	333	103	489	1.11
Tyler Lockett	SEA	51	333	68	489	1.10
Cole Beasley	DAL	52	334	75	528	1.10
Jermaine Kearse	SEA	49	333	66	489	1.09
Julian Edelman	NE	61	404	88	629	1.08
Jarvis Landry	MIA	111	365	167	588	1.07
Jeremy Maclin	KC	87	310	124	473	1.07
Antonio Brown	PIT	136	391	193	590	1.06
Donte Moncrief	IND	64	355	105	619	1.06
Brandon Marshall	NYJ	109	362	173	604	1.05
Golden Tate	DET	90	420	129	632	1.05
Allen Hurns	JAC	64	355	105	607	1.04
Tavon Austin	STL	52	273	87	473	1.04

Name	Team	Receptions	Team Receptions	Targets	Team Targets	Relative Reception Ratio
John Brown	ARI	65	353	101	562	1.02
Jordan Matthews	PHI	85	405	128	623	1.02
Sammy Watkins	BUF	60	295	93	465	1.02
Anquan Boldin	SF	69	322	111	526	1.02
Julio Jones	ATL	136	410	203	621	1.01
Eric Decker	NYJ	80	362	132	604	1.01
Randall Cobb	GB	79	348	129	573	1.01
Rueben Randle	NYG	57	392	90	623	1.01
DeAndre Hopkins	HOU	111	358	192	619	1.00
Willie Snead	NO	70	460	102	667	1.00
AJ Green	CIN	86	334	132	505	0.99
Demaryius Thomas	DEN	105	368	177	606	0.98
Odell Beckham Jr	NYG	96	392	158	623	0.97
Stefon Diggs	MIN	52	294	84	454	0.96
Marvin Jones	CIN	65	334	103	505	0.95
Kamar Aiken	BAL	75	426	126	676	0.94
Michael Crabtree	OAK	85	373	146	605	0.94
Brandin Cooks	NO	84	460	129	667	0.94
Michael Floyd	ARI	52	353	88	562	0.94
Pierre Garcon	WAS	72	386	111	555	0.93
Emmanuel Sanders	DEN	76	368	137	606	0.91
Allen Robinson	JAC	80	355	151	607	0.91
Terrance Williams	DAL	52	334	91	528	0.90
Alshon Jeffery	CHI	54	334	94	523	0.90
Amari Cooper	OAK	72	373	130	605	0.90
TY Hilton	IND	69	355	134	619	0.90
Travis Benjamin	CLE	68	371	125	609	0.89
Calvin Johnson	DET	88	420	149	632	0.89
Mike Evans	TB	74	312	145	535	0.88
Nate Washington	HOU	47	358	94	619	0.86
Markus Wheaton	PIT	44	391	79	590	0.84
James Jones	GB	50	348	99	573	0.83
Martavis Bryant	PIT	50	391	92	590	0.82
Ted Ginn Jr	CAR	44	300	97	501	0.76
Average	-	-	-	-	-	*0.99*

Next, let's look to RYR, which is shown on the next page, sorted similarly to the above:

Name	Team	Yards	Team Yards	Targets	Team Targets	Relative Yard Ratio
Sammy Watkins	BUF	1,047	3600	93	465	1.45
James Jones	GB	890	3825	99	573	1.35
Allen Hurns	JAC	1,030	4428	105	607	1.34
Terrance Williams	DAL	840	3677	91	528	1.33
TY Hilton	IND	1,124	3928	134	619	1.32
Allen Robinson	JAC	1,400	4428	151	607	1.27
Odell Beckham Jr	NYG	1,450	4504	158	623	1.27
Brandon Marshall	NYJ	1,502	4170	173	604	1.26
Jermaine Kearse	SEA	685	4061	66	489	1.25
Doug Baldwin	SEA	1,069	4061	103	489	1.25
Willie Snead	NO	990	5205	102	667	1.24
Julio Jones	ATL	1,871	4602	203	621	1.24
Rueben Randle	NYG	797	4504	90	623	1.22
AJ Green	CIN	1,297	4104	132	505	1.21
Amari Cooper	OAK	1,070	4129	130	605	1.21
DeAndre Hopkins	HOU	1,521	4079	192	619	1.20
Stefon Diggs	MIN	720	3246	84	454	1.20
Emmanuel Sanders	DEN	1,135	4216	137	606	1.19
Jeremy Maclin	KC	1,088	3493	124	473	1.19
Tyler Lockett	SEA	664	4061	68	489	1.18
John Brown	ARI	1,003	4775	101	562	1.17
Alshon Jeffery	CHI	807	3843	94	523	1.17
Antonio Brown	PIT	1,834	4822	193	590	1.16
Markus Wheaton	PIT	749	4822	79	590	1.16
Calvin Johnson	DET	1,214	4463	149	632	1.15
Kamar Aiken	BAL	944	4449	126	676	1.14
Michael Floyd	ARI	849	4775	88	562	1.14
Brandin Cooks	NO	1,140	5205	129	667	1.13
Travis Benjamin	CLE	966	4156	125	609	1.13
Eric Decker	NYJ	1,027	4170	132	604	1.13
Keenan Allen	SD	725	4855	89	667	1.12
Jordan Matthews	PHI	997	4341	128	623	1.12
Mike Evans	TB	1,208	4042	145	535	1.10
Donte Moncrief	IND	733	3928	105	619	1.10
Nate Washington	HOU	658	4079	94	619	1.06
Demaryius Thomas	DEN	1,304	4216	177	606	1.06
Julian Edelman	NE	692	4812	88	629	1.03

Name	Team	Yards	Team Yards	Targets	Team Targets	Relative Yard Ratio
Cole Beasley	DAL	536	3677	75	528	1.03
Anquan Boldin	SF	789	3646	111	526	1.03
Martavis Bryant	PIT	765	4822	92	590	1.02
Ted Ginn Jr	CAR	739	3873	97	501	0.99
Larry Fitzgerald	ARI	1,215	4775	146	562	0.98
Marvin Jones	CIN	816	4104	103	505	0.97
Danny Amendola	NE	648	4812	87	629	0.97
Jarvis Landry	MIA	1,159	4231	167	588	0.96
Randall Cobb	GB	829	3825	129	573	0.96
Michael Crabtree	OAK	922	4129	146	605	0.93
Pierre Garcon	WAS	777	4294	111	555	0.90
Golden Tate	DET	813	4463	129	632	0.89
Tavon Austin	STL	473	2931	87	473	0.88
Average	-	-	-	-	-	*1.14*

Finally, let's look at the RTR for each player:

Name	Team	TDs	Team TDs	Targets	Team Targets	Relative TD Ratio
Tavon Austin	STL	5	11	87	473	2.47
Cole Beasley	DAL	5	16	75	528	2.20
Sammy Watkins	BUF	9	23	93	465	1.96
Doug Baldwin	SEA	14	34	103	489	1.95
Jordan Matthews	PHI	8	23	128	623	1.69
Eric Decker	NYJ	12	33	132	604	1.66
Allen Hurns	JAC	10	35	105	607	1.65
Allen Robinson	JAC	14	35	151	607	1.61
Stefon Diggs	MIN	4	14	84	454	1.54
Rueben Randle	NYG	8	36	90	623	1.54
Jeremy Maclin	KC	8	20	124	473	1.53
James Jones	GB	8	31	99	573	1.49
Brandon Marshall	NYJ	14	33	173	604	1.48
Martavis Bryant	PIT	6	26	92	590	1.48
Ted Ginn Jr	CAR	10	35	97	501	1.48
Brandin Cooks	NO	9	32	129	667	1.45
Markus Wheaton	PIT	5	26	79	590	1.44
Odell Beckham Jr	NYG	13	36	158	623	1.42
Emmanuel Sanders	DEN	6	19	137	606	1.40

Name	Team	TDs	Team TDs	Targets	Team Targets	Relative TD Ratio
Julian Edelman	NE	7	36	88	629	1.39
Donte Moncrief	IND	6	26	105	619	1.36
Kamar Aiken	BAL	5	21	126	676	1.28
Tyler Lockett	SEA	6	34	68	489	1.27
AJ Green	CIN	10	31	132	505	1.23
DeAndre Hopkins	HOU	11	29	192	619	1.22
Travis Benjamin	CLE	5	20	125	609	1.22
Anquan Boldin	SF	4	16	111	526	1.18
Antonio Brown	PIT	10	26	193	590	1.18
Julio Jones	ATL	8	21	203	621	1.17
Calvin Johnson	DET	9	33	149	632	1.16
John Brown	ARI	7	35	101	562	1.11
Michael Crabtree	OAK	9	34	146	605	1.10
Michael Floyd	ARI	6	35	88	562	1.09
Jermaine Kearse	SEA	5	34	66	489	1.09
Terrance Williams	DAL	3	16	91	528	1.09
Demaryius Thomas	DEN	6	19	177	606	1.08
Alshon Jeffery	CHI	4	21	94	523	1.06
Pierre Garcon	WAS	6	30	111	555	1.00
Keenan Allen	SD	4	30	89	667	1.00
Larry Fitzgerald	ARI	9	35	146	562	0.99
Nate Washington	HOU	4	29	94	619	0.91
Golden Tate	DET	6	33	129	632	0.89
TY Hilton	IND	5	26	134	619	0.89
Randall Cobb	GB	6	31	129	573	0.86
Amari Cooper	OAK	6	34	130	605	0.82
Marvin Jones	CIN	4	31	103	505	0.63
Willie Snead	NO	3	32	102	667	0.61
Danny Amendola	NE	3	36	87	629	0.60
Jarvis Landry	MIA	4	24	167	588	0.59
Mike Evans	TB	3	22	145	535	0.50
Average	-	-	-	-	-	*1.26*

Finally, the table on the next page sums up all three ratios for each receiver, sorted by name, with the averages shown at the bottom.

Name	Team	RRR	RYR	RTR
Allen Hurns	JAC	1.04	1.34	1.65
Allen Robinson	JAC	0.91	1.27	1.61
Alshon Jeffery	CHI	0.90	1.17	1.06
Amari Cooper	OAK	0.90	1.21	0.82
Anquan Boldin	SF	1.02	1.03	1.18
Antonio Brown	PIT	1.06	1.16	1.18
Brandin Cooks	NO	0.94	1.13	1.45
Brandon Marshall	NYJ	1.05	1.26	1.48
Calvin Johnson	DET	0.89	1.15	1.16
Cole Beasley	DAL	1.10	1.03	2.20
Danny Amendola	NE	1.16	0.97	0.60
DeAndre Hopkins	HOU	1.00	1.20	1.22
Demaryius Thomas	DEN	0.98	1.06	1.08
Donte Moncrief	IND	1.06	1.10	1.36
Doug Baldwin	SEA	1.11	1.25	1.95
Emmanuel Sanders	DEN	0.91	1.19	1.40
Eric Decker	NYJ	1.01	1.13	1.66
Golden Tate	DET	1.05	0.89	0.89
James Jones	GB	0.83	1.35	1.49
Jarvis Landry	MIA	1.07	0.96	0.59
Jeremy Maclin	KC	1.07	1.19	1.53
Jermaine Kearse	SEA	1.09	1.25	1.09
John Brown	ARI	1.02	1.17	1.11
Jordan Matthews	PHI	1.02	1.12	1.69
Julian Edelman	NE	1.08	1.03	1.39
Julio Jones	ATL	1.01	1.24	1.17
Kamar Aiken	BAL	0.94	1.14	1.28
Keenan Allen	SD	1.14	1.12	1.00
Larry Fitzgerald	ARI	1.19	0.98	0.99
Markus Wheaton	PIT	0.84	1.16	1.44
Martavis Bryant	PIT	0.82	1.02	1.48
Marvin Jones	CIN	0.95	0.97	0.63
Michael Crabtree	OAK	0.94	0.93	1.10
Michael Floyd	ARI	0.94	1.14	1.09
Mike Evans	TB	0.88	1.10	0.50
Nate Washington	HOU	0.86	1.06	0.91
Odell Beckham Jr	NYG	0.97	1.27	1.42
Pierre Garcon	WAS	0.93	0.90	1.00

Name	Team	RRR	RYR	RTR
Randall Cobb	GB	1.01	0.96	0.86
Rueben Randle	NYG	1.01	1.22	1.54
Sammy Watkins	BUF	1.02	1.45	1.96
Stefon Diggs	MIN	0.96	1.20	1.54
Tavon Austin	STL	1.04	0.88	2.47
Ted Ginn Jr	CAR	0.76	0.99	1.48
Terrance Williams	DAL	0.90	1.33	1.09
Travis Benjamin	CLE	0.89	1.13	1.22
Tyler Lockett	SEA	1.10	1.18	1.27
Willie Snead	NO	1.00	1.24	0.61
AJ Green	CIN	0.99	1.21	1.23
TY Hilton	IND	0.90	1.32	0.89
Average	-	*0.99*	*1.14*	*1.26*

As you know by now, I'll save my conclusions for the end of this work, when all the stats are in place. With that said, I have a few thoughts and opinions on the three relative ratios above, as they relate to one another. I spoke earlier about how, at least to me, touchdowns represent a player's ceiling. They're largely unpredictable when compared to receptions as yards, and not bankable on a yearly (or even weekly) basis. Looking at the tables above, I think the numbers bear this theory out.

To help elucidate that point, consider the averages and the ranges of the three relative ratios, summarized in the table below:

Ratio	Average	Standard Deviation	Range
RRR	0.99	0.093	0.76 - 1.19
RYR	1.14	0.131	0.88 - 1.45
RTR	1.26	0.404	0.50 - 2.47

RRR, which focuses on each player's receptions as a function of the team's receptions, has an average that hovers nearly exactly on 1.00, and also has the lowest standard deviation and range. RYR, which analogously considers yards, has a higher average, standard deviation and range, but not in a ridiculously aberrant manner. As I've postulated previously that receptions and yards effectively provide each player's floor, this isn't wholly surprising – having smaller deviations and ranges, and an average that comes close to the "expected" value of 1.00 shows that these statistics could and should function as the "meat and potatoes" of a player's scoring, with the touchdowns being the metaphorical gravy.

Speaking to scoring plays, the numbers are all over the map. The average is easily the highest (not terribly surprising, since it isn't crazy to assert that the top-50 PPR receivers were, at the

least, better than average at scoring the ball), and the standard deviation is over three times that of RYR, and over four times that of RRR. It's the range, however, that jumps out the most.

The low end of the spectrum is well below average, and nearly two full units away from the high end. The top end of the RTR range is a full unit above those of RRR and RYR, with the low end significantly lower as well. This is exactly why I don't want to rely on touchdowns as the backbone of my receivers' fantasy scoring – they're simply too unpredictable, and the variance is far too high. There will always be consistent performers like **Eric Decker** who function as the exception that proves the rule, but by and large I want the guys who perform better than average with receptions and yards. Anything above 5-8 yearly touchdowns will always be a bonus as far as I'm concerned.

Getting back to the metrical analyses, thus far between this chapter and the last, I've shown a breakdown of each of the three scoring components for the PPR Top-50 receivers, as well as how they performed in each aspect relative to their respective teams. The perfect end game of these statistical summations would now be to combine the two, while *also* throwing league-wide trends into the mix. As such, I'd now like to introduce another series of metrics: Aggregate Receiving Computation, or ARC for short.

Taking a step back for a moment, you may recall earlier when I discussed the breakdown of PPR fantasy scoring across the *entire NFL, inclusive of every fantasy point*. That breakdown is shown again below:

Scoring Component	% of League-Wide Points
Receptions	38.6
Yards	44.5
TDs	16.9

The reason I'm re-introducing these numbers is because they can now function as direct comparative values to the numbers in the previous chapter, when I calculated the percentages of PPR points assigned to each component for each of the Top-50 PPR receivers. As an example, if I focused again on Mr. Baldwin, I know that 29.0% of his 2015 PPR points came from receptions. Compared to the league average of 38.6%, that percentage is exactly 0.75 times as much as (29.0% ÷ 38.6%). This calculation is important, because it will utilized to comprise the values in the "% Points/Average" column for the ARC tables.

Moving on, in this chapter I presented three relative ratios: RRR, RYR and RTR. As a reminder, these ratios served to normalize how well a player gained receptions, yards and touchdowns within the scope of his offense. I'm bringing this up again because it too will be used as a component of the ARC metric. Circling back to my favorite Seahawk as my example, Doug Baldwin finished 2015 with a RRR value of 1.11, essentially stating that he was much better than average at collecting catches within the Seattle passing offense.

It's at this point I can now reconcile the two values from the previous two paragraphs, as both represent unit-less ratios that can have any of the four mathematical functions applied to them. So let's do just that, and as such I'll present the formulas for the ARC ratios:

ARC-R = [RRR - (Player % Receptions ÷ Average)] / (Player % Receptions ÷ Average)
ARC-Y = [RYR - (Player % Yards ÷ Average)] / (Player % Yards ÷ Average)
ARC-T = [RTR - (Player % TDs ÷ Average)] / (Player % TDs ÷ Average)

On the surfaces, the formulas look daunting, but truth be told they're nothing more than an offshoot of the standard "percent error" calculations we all learned in freshman chemistry. We can treat the "Player Receptions/Yards/TDs ÷ Average" as the standard theoretical component, as it takes into account the average across the league. We can then treat the relative ratio RRR/RYR/RTR as the variable component, as it's essentially the experimental calculation based on a per player/per team system. Looking at it from that viewpoint, what we basically have is our standard "(Experimental – Actual) / Actual" formula.

So let's once more turn to Mr. Baldwin, and calculate his ARC-R (aka, ARC for receptions) score:

Baldwin ARC-R = [1.11 – (29.0% ÷ 38.6%)] / (29.0% ÷ 38,6%) = 0.480
Baldwin ARC-R = (1.11 – 0.75) / 0.75
Baldwin ARC-R = 0.36 / 0.75
Baldwin ARC-R = 0.480

So finally, what does this number really mean?

The numerator, which winds up as a relatively large, positive fractional number, essentially states that since Baldwin outperformed the aggregate of his team in terms of receptions per market share, it's going to dwarf the fact that his percentage of points scored from receptions were only 75% of the league's average. Dividing a fraction by a fraction will then always lead to a larger number, and as such Baldwin finishes with an ARC-R value of 0.480, which was enough to lead all of the 2015 PPR Top-50 receivers.

Of course, this begs the question – why does this matter?

As I mentioned earlier in the chapter, players shouldn't be "punished" because one component percentage of PPR points directly influences the other two, given the set additive value of 100%. The calculations of the relative ratios (RRR, RYR and RTR) help mitigate the confines of the component percentages, and help tell the story in greater detail. However, by relating both to the league average as the ARC metrics do, we can effectually gain an insight as to what might happen a player's offense changes.

If the Seahawks have more completions in 2016, Baldwin's 2015 ARC-R value tells us that he is extremely likely to gain a large slice of that pie. If the offense got worse, he'd still be relatively insulated. Conversely, if a player had a poor ARC-R value, such as Redskins receiver **Pierre**

Garcon, it would be worrisome if the passing offense deteriorated, as he only met the league average while falling below his own team's structure.

So with that (incredibly lengthy) introduction in hand, let's get to the values! Shown first is the output from the ARC-R (receptions) calculations, sorted in a descending manner with the traffic light heat map coloration pattern. The average is also shown at the bottom of the table:

Name	Team	% Points from Receptions	% Points/Average (38.6%)	RRR	ARC-R
Doug Baldwin	SEA	29.0	0.75	1.11	0.480
Sammy Watkins	BUF	27.4	0.71	1.02	0.431
Allen Hurns	JAC	28.2	0.73	1.04	0.427
Allen Robinson	JAC	26.3	0.68	0.91	0.329
Tyler Lockett	SEA	33.2	0.86	1.10	0.279
Brandon Marshall	NYJ	31.8	0.82	1.05	0.278
Jermaine Kearse	SEA	33.2	0.86	1.09	0.267
John Brown	ARI	31.4	0.81	1.02	0.261
Rueben Randle	NYG	30.9	0.80	1.01	0.259
Eric Decker	NYJ	31.4	0.81	1.01	0.243
Odell Beckham Jr	NYG	30.1	0.78	0.97	0.239
AJ Green	CIN	31.2	0.81	0.99	0.219
Michael Floyd	ARI	30.1	0.78	0.94	0.207
James Jones	GB	26.7	0.69	0.83	0.201
Larry Fitzgerald	ARI	38.3	0.99	1.19	0.198
Ted Ginn Jr	CAR	24.7	0.64	0.76	0.182
Julian Edelman	NE	35.4	0.92	1.08	0.176
Jeremy Maclin	KC	35.7	0.92	1.07	0.158
Antonio Brown	PIT	35.8	0.93	1.06	0.145
DeAndre Hopkins	HOU	33.7	0.87	1.00	0.144
Donte Moncrief	IND	36.9	0.96	1.06	0.111
Cole Beasley	DAL	38.3	0.99	1.10	0.103
Markus Wheaton	PIT	29.6	0.77	0.84	0.098
Brandin Cooks	NO	33.3	0.86	0.94	0.093
Jordan Matthews	PHI	36.5	0.95	1.02	0.079
Keenan Allen	SD	41.0	1.06	1.14	0.070
Julio Jones	ATL	36.6	0.95	1.01	0.069
TY Hilton	IND	32.6	0.85	0.90	0.062
Stefon Diggs	MIN	35.1	0.91	0.96	0.050
Emmanuel Sanders	DEN	33.7	0.87	0.91	0.046
Amari Cooper	OAK	33.5	0.87	0.90	0.035

Name	Team	% Points from Receptions	% Points/Average (38.6%)	RRR	ARC-R
Terrance Williams	DAL	33.8	0.87	0.90	0.033
Martavis Bryant	PIT	30.8	0.80	0.82	0.029
Calvin Johnson	DET	33.4	0.87	0.89	0.027
Willie Snead	NO	37.4	0.97	1.00	0.026
Danny Amendola	NE	44.0	1.14	1.16	0.021
Alshon Jeffery	CHI	34.0	0.88	0.90	0.020
Tavon Austin	STL	40.2	1.04	1.04	-0.006
Michael Crabtree	OAK	36.8	0.95	0.94	-0.009
Travis Benjamin	CLE	34.9	0.91	0.89	-0.014
Anquan Boldin	SF	40.1	1.04	1.02	-0.024
Randall Cobb	GB	39.9	1.03	1.01	-0.025
Demaryius Thomas	DEN	38.7	1.00	0.98	-0.025
Mike Evans	TB	34.8	0.90	0.88	-0.029
Nate Washington	HOU	34.4	0.89	0.86	-0.029
Kamar Aiken	BAL	37.6	0.97	0.94	-0.031
Marvin Jones	CIN	38.1	0.99	0.95	-0.033
Jarvis Landry	MIA	44.2	1.15	1.07	-0.066
Golden Tate	DET	43.4	1.12	1.05	-0.067
Pierre Garcon	WAS	38.8	1.00	0.93	-0.072
Average	-	-	-	-	*0.113*

Up next is the listing of ARC-Y (yards) values, sorted as shown above:

Name	Team	% Points from Yards	% Yards/Average (44.5%)	RYR	ARC-Y
Doug Baldwin	SEA	39.8	0.89	1.25	0.399
Sammy Watkins	BUF	47.9	1.08	1.45	0.352
Allen Hurns	JAC	45.4	1.02	1.34	0.319
Brandon Marshall	NYJ	43.8	0.98	1.26	0.279
Rueben Randle	NYG	43.2	0.97	1.22	0.263
James Jones	GB	47.6	1.07	1.35	0.259
Eric Decker	NYJ	40.3	0.91	1.13	0.244
Odell Beckham Jr	NYG	45.5	1.02	1.27	0.243
Allen Robinson	JAC	46.1	1.03	1.27	0.228
Tyler Lockett	SEA	43.3	0.97	1.18	0.209
Jermaine Kearse	SEA	46.4	1.04	1.25	0.198
Jeremy Maclin	KC	44.6	1.00	1.19	0.185

Name	Team	% Points from Yards	% Yards/Average (44.5%)	RYR	ARC-Y
Jordan Matthews	PHI	42.8	0.96	1.12	0.161
DeAndre Hopkins	HOU	46.2	1.04	1.20	0.158
Donte Moncrief	IND	42.3	0.95	1.10	0.157
Cole Beasley	DAL	39.5	0.89	1.03	0.155
AJ Green	CIN	47.0	1.06	1.21	0.144
Julian Edelman	NE	40.2	0.90	1.03	0.138
Keenan Allen	SD	44.3	1.00	1.12	0.123
Calvin Johnson	DET	46.1	1.04	1.15	0.114
Brandin Cooks	NO	45.2	1.02	1.13	0.114
TY Hilton	IND	53.2	1.19	1.32	0.106
Julio Jones	ATL	50.4	1.13	1.24	0.098
Stefon Diggs	MIN	48.6	1.09	1.20	0.097
Terrance Williams	DAL	54.5	1.23	1.33	0.081
Amari Cooper	OAK	49.8	1.12	1.21	0.078
John Brown	ARI	48.4	1.09	1.17	0.075
Antonio Brown	PIT	48.3	1.09	1.16	0.070
Kamar Aiken	BAL	47.3	1.06	1.14	0.070
Tavon Austin	STL	36.6	0.82	0.88	0.067
Ted Ginn Jr	CAR	41.5	0.93	0.99	0.056
Emmanuel Sanders	DEN	50.3	1.13	1.19	0.053
Willie Snead	NO	52.9	1.19	1.24	0.045
Michael Crabtree	OAK	39.9	0.90	0.93	0.033
Michael Floyd	ARI	49.1	1.10	1.14	0.029
Markus Wheaton	PIT	50.3	1.13	1.16	0.026
Randall Cobb	GB	41.9	0.94	0.96	0.023
Alshon Jeffery	CHI	50.9	1.14	1.17	0.022
Larry Fitzgerald	ARI	42.7	0.96	0.98	0.021
Travis Benjamin	CLE	49.6	1.12	1.13	0.015
Golden Tate	DET	39.2	0.88	0.89	0.013
Anquan Boldin	SF	45.9	1.03	1.03	-0.006
Danny Amendola	NE	43.8	0.99	0.97	-0.012
Nate Washington	HOU	48.1	1.08	1.06	-0.017
Demaryius Thomas	DEN	48.0	1.08	1.06	-0.019
Pierre Garcon	WAS	41.8	0.94	0.90	-0.038
Martavis Bryant	PIT	47.1	1.06	1.02	-0.038
Jarvis Landry	MIA	46.2	1.04	0.96	-0.071
Marvin Jones	CIN	47.8	1.07	0.97	-0.093

Name	Team	% Points from Yards	% Yards/Average (44.5%)	RYR	ARC-Y
Mike Evans	TB	56.8	1.28	1.10	-0.136
Average	-	-	-	-	*0.102*

Finally, shown below are the ARC-T (touchdowns) values, sorted as shown above:

Name	Team	% Points from TDs	% TDs/Average (16.9%)	RTR	ARC-T
Tavon Austin	STL	23.2	1.37	2.47	0.800
Cole Beasley	DAL	22.1	1.31	2.20	0.681
Stefon Diggs	MIN	16.2	0.96	1.54	0.609
Terrance Williams	DAL	11.7	0.69	1.09	0.573
Julio Jones	ATL	12.9	0.77	1.17	0.523
Emmanuel Sanders	DEN	16.0	0.94	1.40	0.479
Kamar Aiken	BAL	15.0	0.89	1.28	0.435
Anquan Boldin	SF	14.0	0.83	1.18	0.434
Jordan Matthews	PHI	20.6	1.22	1.69	0.387
Demaryius Thomas	DEN	13.3	0.78	1.08	0.377
Sammy Watkins	BUF	24.7	1.46	1.96	0.339
Travis Benjamin	CLE	15.4	0.91	1.22	0.335
Jeremy Maclin	KC	19.7	1.16	1.53	0.310
Antonio Brown	PIT	15.8	0.94	1.18	0.256
Markus Wheaton	PIT	20.1	1.19	1.44	0.205
Alshon Jeffery	CHI	15.1	0.89	1.06	0.184
Keenan Allen	SD	14.7	0.87	1.00	0.150
Brandin Cooks	NO	21.4	1.27	1.45	0.147
Martavis Bryant	PIT	22.2	1.31	1.48	0.129
Donte Moncrief	IND	20.8	1.23	1.36	0.107
Willie Snead	NO	9.6	0.57	0.61	0.076
TY Hilton	IND	14.2	0.84	0.89	0.058
Doug Baldwin	SEA	31.2	1.85	1.95	0.058
Allen Hurns	JAC	26.4	1.56	1.65	0.056
Jarvis Landry	MIA	9.6	0.57	0.59	0.037
DeAndre Hopkins	HOU	20.1	1.19	1.22	0.031
Brandon Marshall	NYJ	24.5	1.45	1.48	0.023
Mike Evans	TB	8.5	0.50	0.50	0.005
Rueben Randle	NYG	26.0	1.54	1.54	0.000
Eric Decker	NYJ	28.3	1.67	1.66	-0.005

Name	Team	% Points from TDs	% TDs/Average (16.9%)	RTR	ARC-T
Odell Beckham Jr	NYG	24.5	1.45	1.42	-0.016
Allen Robinson	JAC	27.6	1.64	1.61	-0.017
James Jones	GB	25.7	1.52	1.49	-0.017
Julian Edelman	NE	24.4	1.44	1.39	-0.037
AJ Green	CIN	21.8	1.29	1.23	-0.042
Calvin Johnson	DET	20.5	1.21	1.16	-0.046
John Brown	ARI	20.3	1.20	1.11	-0.072
Tyler Lockett	SEA	23.5	1.39	1.27	-0.086
Jermaine Kearse	SEA	20.3	1.20	1.09	-0.095
Michael Floyd	ARI	20.8	1.23	1.09	-0.111
Larry Fitzgerald	ARI	19.0	1.12	0.99	-0.119
Nate Washington	HOU	17.5	1.04	0.91	-0.125
Pierre Garcon	WAS	19.4	1.15	1.00	-0.128
Golden Tate	DET	17.4	1.03	0.89	-0.133
Danny Amendola	NE	12.2	0.72	0.60	-0.164
Amari Cooper	OAK	16.7	0.99	0.82	-0.171
Randall Cobb	GB	18.2	1.08	0.86	-0.201
Michael Crabtree	OAK	23.4	1.38	1.10	-0.206
Marvin Jones	CIN	14.1	0.83	0.63	-0.240
Ted Ginn Jr	CAR	33.7	2.00	1.48	-0.261
Average	-	-	-	-	*0.110*

As always, we'll sum up the series of ARC metrics in a single table, sorted by player name:

Name	Team	ARC-R	ARC-Y	ARC-T
Allen Hurns	JAC	0.427	0.319	0.056
Allen Robinson	JAC	0.329	0.228	-0.017
Alshon Jeffery	CHI	0.020	0.022	0.184
Amari Cooper	OAK	0.035	0.078	-0.171
Anquan Boldin	SF	-0.024	-0.006	0.434
Antonio Brown	PIT	0.145	0.070	0.256
Brandin Cooks	NO	0.093	0.114	0.147
Brandon Marshall	NYJ	0.278	0.279	0.023
Calvin Johnson	DET	0.027	0.114	-0.046
Cole Beasley	DAL	0.103	0.155	0.681
Danny Amendola	NE	0.021	-0.012	-0.164
DeAndre Hopkins	HOU	0.144	0.158	0.031
Demaryius Thomas	DEN	-0.025	-0.019	0.377

Name	Team	ARC-R	ARC-Y	ARC-T
Donte Moncrief	IND	0.111	0.157	0.107
Doug Baldwin	SEA	0.480	0.399	0.058
Emmanuel Sanders	DEN	0.046	0.053	0.479
Eric Decker	NYJ	0.243	0.244	-0.005
Golden Tate	DET	-0.067	0.013	-0.133
James Jones	GB	0.201	0.259	-0.017
Jarvis Landry	MIA	-0.066	-0.071	0.037
Jeremy Maclin	KC	0.158	0.185	0.310
Jermaine Kearse	SEA	0.267	0.198	-0.095
John Brown	ARI	0.261	0.075	-0.072
Jordan Matthews	PHI	0.079	0.161	0.387
Julian Edelman	NE	0.176	0.138	-0.037
Julio Jones	ATL	0.069	0.098	0.523
Kamar Aiken	BAL	-0.031	0.070	0.435
Keenan Allen	SD	0.070	0.123	0.150
Larry Fitzgerald	ARI	0.198	0.021	-0.119
Markus Wheaton	PIT	0.098	0.026	0.205
Martavis Bryant	PIT	0.029	-0.038	0.129
Marvin Jones	CIN	-0.033	-0.093	-0.240
Michael Crabtree	OAK	-0.009	0.033	-0.206
Michael Floyd	ARI	0.207	0.029	-0.111
Mike Evans	TB	-0.029	-0.136	0.005
Nate Washington	HOU	-0.029	-0.017	-0.125
Odell Beckham Jr	NYG	0.239	0.243	-0.016
Pierre Garcon	WAS	-0.072	-0.038	-0.128
Randall Cobb	GB	-0.025	0.023	-0.201
Rueben Randle	NYG	0.259	0.263	0.000
Sammy Watkins	BUF	0.431	0.352	0.339
Stefon Diggs	MIN	0.050	0.097	0.609
Tavon Austin	STL	-0.006	0.067	0.800
Ted Ginn Jr	CAR	0.182	0.056	-0.261
Terrance Williams	DAL	0.033	0.081	0.573
Travis Benjamin	CLE	-0.014	0.015	0.335
Tyler Lockett	SEA	0.279	0.209	-0.086
Willie Snead	NO	0.026	0.045	0.076
AJ Green	CIN	0.219	0.144	-0.042
TY Hilton	IND	0.062	0.106	0.058
Average	-	*0.113*	*0.102*	*0.110*

By now I believe I've done just about everything I possibly can as it relates to deciphering why each of the PPR Top-50 receivers finished where they did in the pass-catching hierarchy, and also how they got there. As such it's time to take several steps back and start looking into what matters – the points these guys are putting up for our fantasy teams. Moving forward in the coming chapters, that will take more precedence, but don't worry – spoiler alert! – the metrics will make one final appearance.

WEEKLY FANTASY RELIABILITY

In the immortal words of Herm Edwards, "You play…to win…the game!"

Basically every metric I've presented thus far, whether it be related to fantasy or real life football, is nothing more than an explanation of compiled statistics or an attempt at a predictive quantity. Obviously I believe this is incredibly important or I wouldn't have spent months thinking them up, running the numbers, and jotting down my thoughts. But at the end of the day, our players need to post their numbers where it matters – in the fantasy box scores.

Continuing, I'm of the line of reasoning that there are three major types of fantasy scorers:

1. The consistent fantasy contributors
2. The boom/bust guys
3. The aggregators

The first grouping is obviously comprised of the type of players we strive to own – guys who are providing you with start-able production more often than not, and who also possess a high-end ceiling. The second set of players also have the ability for a robust fantasy ceiling, but good luck picking and choosing the correct weeks for starting them as they're just as likely to deliver you a big fat zero as they are weekly WR1 production. The last group is perhaps the sneakiest – the aggregators are those who don't miss time and collect enough targets to remain fantasy viable, but truthfully don't ever blow you away. Yet at the end of the year, there they are, somehow amongst the positional upper echelon. Due to injuries this is typically something we see more with running backs, but it can happen with receivers as well.

In order to discern what class of player a receiver belongs to, we need to dig deeper than the year-end stats. To do so, it becomes prudent to treat each week as a series of "one-game seasons." In other words, at year's end we classify the PPR WR1 through WR12 as the PPR WR1 class (obviously assuming a 12-team league), and so on down the list. We can also do that for every *week* of the season, and then aggregate the incidences of each type of finish (WR1, WR2, WR3, etc.) to gain a sense of each player's fantasy reliability.

In doing this, we need a means of qualifying every week. I've chosen to use a 12-team league as my blueprint, meaning that each week there can only be 12 players in the WR1 class, 12 in the WR2 class, and so on. As such, the fantasy finishes can be broken down as follows:

Rank	Weekly Finish
WR1	1 - 12
WR2	13 - 24
WR3	25 - 36
WR4	37 - 48
WR5+	> 48

I understand that another school of thought suggests I could've used a weekly PPR points scored average as a cut-off, as opposed to weekly rank. While I'm not completely opposed to that logic, I also believe that every week is different – players get nicked up during the year, including both to the player himself and to his supporting cast. The season is a marathon, not a sprint. As such, I don't want to place an artificial numerical guideline on each week, given that, quite frankly, every week in the season is different. Also, it's simply more straightforward to use weekly ranks, as they are what they are – there's no massaging the numbers, and all the "Yeah, but…" qualifiers are eliminated.

As I believe this is a fairly straightforward process, let's start with the percent incidences that each player finished as a weekly PPR WR1. The numbers are shown in a descending manner as per the percentages, with the traffic light heat map included as a visual aid. Note that the average is included at the bottom of the table, and also that the number of games each player played has its own column. This is obviously important, as a series of elite performances over the course of an entire season is more impressive than when a player misses time, but we also can't discount the guys who got injured. If we looked at this as the *number of incidences* instead of a percentage, the players who missed time would get buried due to a simple lack of data. With the percentages, we can still see exactly how good they were, even if was a limited sample size. The WR1 numbers are shown below:

Name	Team	Games	WR1 %
Julio Jones	ATL	16	62.5
Brandon Marshall	NYJ	16	56.3
Antonio Brown	PIT	16	50.0
Odell Beckham	NYG	15	46.7
Alshon Jeffery	CHI	9	44.4
Julian Edelman	NE	9	44.4
DeAndre Hopkins	HOU	16	43.8
Allen Robinson	JAX	16	37.5
Brandin Cooks	NO	16	37.5
Calvin Johnson	DET	16	37.5
Keenan Allen	SD	8	37.5
Emmanuel Sanders	DEN	15	33.3
Mike Evans	TB	15	33.3

Name	Team	Games	WR1 %
Demaryius Thomas	DEN	16	31.3
Doug Baldwin	SEA	16	31.3
Jarvis Landry	MIA	16	31.3
Jordan Matthews	PHI	16	31.3
Larry Fitzgerald	AZ	16	31.3
AJ Green	CIN	16	31.3
Sammy Watkins	BUF	13	30.8
Martavis Bryant	PIT	11	27.3
Allen Hurns	JAX	15	26.7
Jeremy Maclin	KC	15	26.7
Danny Amendola	NE	14	21.4
Ted Ginn	CAR	14	21.4
Amari Cooper	OAK	16	18.8
James Jones	GB	16	18.8
Eric Decker	NYJ	15	13.3
Michael Floyd	AZ	15	13.3
Willie Snead	NO	15	13.3
Cole Beasley	DAL	16	12.5
Kamar Aiken	BAL	16	12.5
Michael Crabtree	OAK	16	12.5
Pierre Garcon	WSH	16	12.5
Tavon Austin	STL	16	12.5
Terrance Williams	DAL	16	12.5
Travis Benjamin	CLE	16	12.5
Tyler Lockett	SEA	16	12.5
TY Hilton	IND	16	12.5
Nate Washington	HOU	13	7.7
Stefon Diggs	MIN	13	7.7
Anquan Boldin	SF	14	7.1
John Brown	AZ	15	6.7
Donte Moncrief	IND	16	6.3
Golden Tate	DET	16	6.3
Markus Wheaton	PIT	16	6.3
Marvin Jones	CIN	16	6.3
Randall Cobb	GB	16	6.3
Rueben Randle	NYG	16	6.3
Jermaine Kearse	SEA	16	0.0
Average	-	-	*23.3*

Next, I've summed up the incidences of PPR WR1 + WR2 finishes, and then converted them to percentages. While this lowers the bar a little bit, the fact is a Top-24 finish is going to be a start-able in virtually every league format. In other words, this remains high praise:

Name	Team	Games	WR1 + WR2 %
Julian Edelman	NE	9	77.8
Brandon Marshall	NYJ	16	75.0
Julio Jones	ATL	16	75.0
Odell Beckham	NYG	15	73.3
Antonio Brown	PIT	16	68.8
DeAndre Hopkins	HOU	16	68.8
Demaryius Thomas	DEN	16	68.8
Allen Robinson	JAX	16	62.5
Keenan Allen	SD	8	62.5
Larry Fitzgerald	AZ	16	62.5
Sammy Watkins	BUF	13	61.5
Emmanuel Sanders	DEN	15	60.0
Eric Decker	NYJ	15	60.0
Calvin Johnson	DET	16	56.3
Martavis Bryant	PIT	11	54.5
Jeremy Maclin	KC	15	53.3
John Brown	AZ	15	53.3
Jarvis Landry	MIA	16	50.0
Mike Evans	TB	15	46.7
Alshon Jeffery	CHI	9	44.4
Amari Cooper	OAK	16	43.8
Brandin Cooks	NO	16	43.8
Doug Baldwin	SEA	16	43.8
AJ Green	CIN	16	43.8
Anquan Boldin	SF	14	42.9
Ted Ginn	CAR	14	42.9
Allen Hurns	JAX	15	40.0
Michael Floyd	AZ	15	40.0
Willie Snead	NO	15	40.0
James Jones	GB	16	37.5
Jordan Matthews	PHI	16	37.5
Kamar Aiken	BAL	16	37.5
Travis Benjamin	CLE	16	37.5
Danny Amendola	NE	14	35.7

Name	Team	Games	WR1 + WR2 %
Golden Tate	DET	16	31.3
Michael Crabtree	OAK	16	31.3
Randall Cobb	GB	16	31.3
TY Hilton	IND	16	31.3
Stefon Diggs	MIN	13	30.8
Donte Moncrief	IND	16	25.0
Markus Wheaton	PIT	16	25.0
Rueben Randle	NYG	16	25.0
Tavon Austin	STL	16	25.0
Tyler Lockett	SEA	16	25.0
Nate Washington	HOU	13	23.1
Jermaine Kearse	SEA	16	18.8
Marvin Jones	CIN	16	18.8
Terrance Williams	DAL	16	18.8
Cole Beasley	DAL	16	12.5
Pierre Garcon	WSH	16	12.5
Average	-	-	43.7

While sticking to the positive side of the ledger, let's move down one more tier and sum up the percentages of games a receiver functioned as a WR1 + WR2 + WR3. As many leagues start up to three receivers (or at least two receivers and a FLEX), this remains a likely start-able grouping. The numbers can be seen below:

Name	Team	Games	WR1 + WR2 + WR3 %
Eric Decker	NYJ	15	100.0
Brandon Marshall	NYJ	16	93.8
Julian Edelman	NE	9	88.9
Jarvis Landry	MIA	16	87.5
Julio Jones	ATL	16	87.5
Keenan Allen	SD	8	87.5
DeAndre Hopkins	HOU	16	81.3
Demaryius Thomas	DEN	16	81.3
Larry Fitzgerald	AZ	16	81.3
Alshon Jeffery	CHI	9	77.7
Allen Robinson	JAX	16	75.0
Antonio Brown	PIT	16	75.0
Calvin Johnson	DET	16	75.0
AJ Green	CIN	16	75.0

Name	Team	Games	WR1 + WR2 + WR3 %
Odell Beckham	NYG	15	73.3
Martavis Bryant	PIT	11	72.7
Sammy Watkins	BUF	13	69.2
Michael Crabtree	OAK	16	68.8
Emmanuel Sanders	DEN	15	66.7
Jeremy Maclin	KC	15	66.7
John Brown	AZ	15	66.7
Golden Tate	DET	16	62.5
Kamar Aiken	BAL	16	62.5
Allen Hurns	JAX	15	60.0
Ted Ginn	CAR	14	57.1
Brandin Cooks	NO	16	56.3
Doug Baldwin	SEA	16	56.3
TY Hilton	IND	16	56.3
Willie Snead	NO	15	53.3
Mike Evans	TB	15	53.3
Amari Cooper	OAK	16	50.0
Anquan Boldin	SF	14	50.0
Donte Moncrief	IND	16	50.0
Jermaine Kearse	SEA	16	50.0
Jordan Matthews	PHI	16	50.0
Travis Benjamin	CLE	16	50.0
Danny Amendola	NE	14	50.0
Michael Floyd	AZ	15	46.7
Stefon Diggs	MIN	13	46.2
James Jones	GB	16	43.8
Pierre Garcon	WSH	16	43.8
Randall Cobb	GB	16	43.8
Rueben Randle	NYG	16	43.8
Marvin Jones	CIN	16	37.5
Tavon Austin	STL	16	37.5
Terrance Williams	DAL	16	37.5
Markus Wheaton	PIT	16	31.3
Tyler Lockett	SEA	16	31.3
Nate Washington	HOU	13	30.8
Cole Beasley	DAL	16	18.8
Average	-	-	60.7

Moving to the other end of the spectrum, we need to look into the percentages of times each receiver could've laid waste to your starting lineup. Traditionally I'd sum this up as WR4 + WR5 finishes, but truth be told you can just subtract the numbers in the table above from 100 and get those values. Also, there's a modicum of a chance that a WR4 could be a start-able entity, depending on your league settings. I'm not saying it's something you should strive for, but in a deeper format you could probably do worse.

As such, I've chosen to stick with the percentage of WR5 or worse (i.e. weekly rankings of WR49+) as the barometer here. Barring some kind of crazy league setting, there's no way you want these types of performances anywhere near your starting lineup. Given that, the numbers are now sorted in an ascending manner, with the lower percentages obviously better. They can be seen below:

Name	Team	Games	WR5+ %
Brandon Marshall	NYJ	16	0.0
Eric Decker	NYJ	15	0.0
Julian Edelman	NE	9	0.0
Demaryius Thomas	DEN	16	6.3
Jarvis Landry	MIA	16	6.3
Julio Jones	ATL	16	6.3
Allen Robinson	JAX	16	12.5
DeAndre Hopkins	HOU	16	12.5
Keenan Allen	SD	8	12.5
Larry Fitzgerald	AZ	16	12.5
AJ Green	CIN	16	12.5
Odell Beckham	NYG	15	13.3
Martavis Bryant	PIT	11	18.2
Antonio Brown	PIT	16	18.8
Calvin Johnson	DET	16	18.8
Kamar Aiken	BAL	16	18.8
Michael Crabtree	OAK	16	18.8
Pierre Garcon	WSH	16	18.8
Alshon Jeffery	CHI	9	22.2
Amari Cooper	OAK	16	25.0
Golden Tate	DET	16	25.0
Rueben Randle	NYG	16	25.0
Allen Hurns	JAX	15	26.7
Jeremy Maclin	KC	15	26.7
John Brown	AZ	15	26.7
Mike Evans	TB	15	26.7

Name	Team	Games	WR5+ %
Ted Ginn	CAR	14	28.6
Sammy Watkins	BUF	13	30.8
Brandin Cooks	NO	16	31.3
Doug Baldwin	SEA	16	31.3
Jordan Matthews	PHI	16	31.3
Randall Cobb	GB	16	31.3
Emmanuel Sanders	DEN	15	33.3
Willie Snead	NO	15	33.3
Marvin Jones	CIN	16	37.5
Travis Benjamin	CLE	16	37.5
TY Hilton	IND	16	37.5
Michael Floyd	AZ	15	40.0
Donte Moncrief	IND	16	43.8
James Jones	GB	16	43.8
Jermaine Kearse	SEA	16	43.8
Tavon Austin	STL	16	43.8
Stefon Diggs	MIN	13	46.2
Anquan Boldin	SF	14	50.0
Danny Amendola	NE	14	50.0
Terrance Williams	DAL	16	56.3
Nate Washington	HOU	13	61.5
Markus Wheaton	PIT	16	62.5
Cole Beasley	DAL	16	68.8
Tyler Lockett	SEA	16	68.8
Average	-	-	*28.7*

To sum it all up, the below table shows each type of percent incidence for all 50 receivers, sorted alphabetically:

Name	Team	Games	WR1 %	WR2 %	WR3 %	WR4 %	WR5+ %
Allen Hurns	JAX	15	26.7	13.3	20.0	13.3	26.7
Allen Robinson	JAX	16	37.5	25.0	12.5	12.5	12.5
Alshon Jeffery	CHI	9	44.4	0.0	33.3	0.0	22.2
Amari Cooper	OAK	16	18.8	25.0	6.3	25.0	25.0
Anquan Boldin	SF	14	7.1	35.7	7.1	0.0	50.0
Antonio Brown	PIT	16	50.0	18.8	6.3	6.3	18.8
Brandin Cooks	NO	16	37.5	6.3	12.5	12.5	31.3
Brandon Marshall	NYJ	16	56.3	18.8	18.8	6.3	0.0

Name	Team	Games	WR1 %	WR2 %	WR3 %	WR4 %	WR5+ %
Calvin Johnson	DET	16	37.5	18.8	18.8	6.3	18.8
Cole Beasley	DAL	16	12.5	0.0	6.3	12.5	68.8
Danny Amendola	NE	14	21.4	14.3	14.3	0.0	50.0
DeAndre Hopkins	HOU	16	43.8	25.0	12.5	6.3	12.5
Demaryius Thomas	DEN	16	31.3	37.5	12.5	12.5	6.3
Donte Moncrief	IND	16	6.3	18.8	25.0	6.3	43.8
Doug Baldwin	SEA	16	31.3	12.5	12.5	12.5	31.3
Emmanuel Sanders	DEN	15	33.3	26.7	6.7	0.0	33.3
Eric Decker	NYJ	15	13.3	46.7	40.0	0.0	0.0
Golden Tate	DET	16	6.3	25.0	31.3	12.5	25.0
James Jones	GB	16	18.8	18.8	6.3	12.5	43.8
Jarvis Landry	MIA	16	31.3	18.8	37.5	6.3	6.3
Jeremy Maclin	KC	15	26.7	26.7	13.3	6.7	26.7
Jermaine Kearse	SEA	16	0.0	18.8	31.3	6.3	43.8
John Brown	AZ	15	6.7	46.7	13.3	6.7	26.7
Jordan Matthews	PHI	16	31.3	6.3	12.5	18.8	31.3
Julian Edelman	NE	9	44.4	33.3	11.1	11.1	0.0
Julio Jones	ATL	16	62.5	12.5	12.5	6.3	6.3
Kamar Aiken	BAL	16	12.5	25.0	25.0	18.8	18.8
Keenan Allen	SD	8	37.5	25.0	25.0	0.0	12.5
Larry Fitzgerald	AZ	16	31.3	31.3	18.8	6.3	12.5
Markus Wheaton	PIT	16	6.3	18.8	6.3	6.3	62.5
Martavis Bryant	PIT	11	27.3	27.3	18.2	9.1	18.2
Marvin Jones	CIN	16	6.3	12.5	18.8	25.0	37.5
Michael Crabtree	OAK	16	12.5	18.8	37.5	12.5	18.8
Michael Floyd	AZ	15	13.3	26.7	6.7	13.3	40.0
Mike Evans	TB	15	33.3	13.3	6.7	20.0	26.7
Nate Washington	HOU	13	7.7	15.4	7.7	7.7	61.5
Odell Beckham	NYG	15	46.7	26.7	0.0	13.3	13.3
Pierre Garcon	WSH	16	12.5	0.0	31.3	37.5	18.8
Randall Cobb	GB	16	6.3	25.0	12.5	25.0	31.3
Rueben Randle	NYG	16	6.3	18.8	18.8	31.3	25.0
Sammy Watkins	BUF	13	30.8	30.8	7.7	0.0	30.8
Stefon Diggs	MIN	13	7.7	23.1	15.4	7.7	46.2
Tavon Austin	STL	16	12.5	12.5	12.5	18.8	43.8
Ted Ginn	CAR	14	21.4	21.4	14.3	14.3	28.6
Terrance Williams	DAL	16	12.5	6.3	18.8	6.3	56.3
Travis Benjamin	CLE	16	12.5	25.0	12.5	12.5	37.5

Name	Team	Games	WR1 %	WR2 %	WR3 %	WR4 %	WR5+ %
Tyler Lockett	SEA	16	12.5	12.5	6.3	0.0	68.8
Willie Snead	NO	15	13.3	26.7	13.3	13.3	33.3
AJ Green	CIN	16	31.3	12.5	31.3	12.5	12.5
TY Hilton	IND	16	12.5	18.8	25.0	6.3	37.5
Average	-	-	*23.3*	*20.5*	*16.9*	*10.6*	*28.7*

With those numbers in hand, it's time to combine them with my weekly AIR calculations in order to decipher the ultimate fantasy hierarchy – who was doing it the best, *and* the most efficiently? Read on for the grand finale…

DECIPHERING THE FANTASY RECEIVER HIERARCHY

Obviously scoring fantasy points remains the bottom line. However, the Holy Grail of receiver box score scouting should be finding players who are able to not only score a bunch of points, but do so in an efficient manner. The reasons remain relatively straightforward:

1. If the offense as a whole falters, the receiver should still be able to transcend his situation.
2. If the receiver collects fewer targets, he'll still be able to do the most damage with them and remain relatively insulated.
3. If the offense gets better, or if the player accrues more looks, he could wind up as an elite fantasy asset.

In other words, if we consider the two as a combined function, fantasy scoring is the constant, and efficiency is the variable. If you multiply the two together, the final result is going to depend on the variable, and thus we want to see a higher efficiency metric. Again, as mentioned in the first paragraph, in my estimation the best players should be elite in both.

Given that, why can't we combine the two in order to give us the best approximation of a true fantasy receiver hierarchy? I've already shown that a player's weekly output can be quantified from both perspectives, and as such it seems sensible to pool these results into a final fantasy determinant. Continuing, given the ability to tabulate weekly results, there's no reason we can't take the cumulative production and look at the season's worth of data.

Naturally, I'll attempt to do just that…

Starting with efficiency, I'm obviously going to use the AIR metric – the first born is always going to be the favorite, right? Specifically, I'll use the AIR scores for each week, as classified using the table I showed previously:

Game Type	Weekly AIR
Tank	≤ 0.64
Below Average	0.65 - 0.89
About Average	0.90 - 1.10
Above Average	1.11 - 1.35
Superstar	≥ 1.36

There are five separate tiers for weekly output, and as such it's easy to create a sliding scale. More on that in just a bit.

Moving onto the fantasy points portion, I just showed in the last chapter that it's relatively straightforward to quantify how well a player performs, by virtue of their weekly finish. As a reminder, that table can be seen below:

Rank	Weekly Finish
WR1	1 - 12
WR2	13 - 24
WR3	25 - 36
WR4	37 - 48
WR5+	> 48

Once again we have five distinct categories, meaning we can again utilize a sliding scale. But what's the best way to do it?

While I'm not sure if it's the most mathematically precise (spoiler alert: it's not, but we've had enough of that already, right?), I think the most direct methodology for grading the five categories for both weekly AIR and weekly fantasy finish is on a scale from one to five. In terms of relative subjectivity, I think it's a fairly objective process. It also means we have the makings of a cross-multiplication scheme, which can be seen below:

	Superstar (5)	Above Average (4)	About Average (3)	Below Average (2)	Tank (1)
WR1 (5)	25	20	15	10	5
WR2 (4)	20	16	12	8	4
WR3 (3)	15	12	9	6	3
WR4 (2)	10	8	6	4	2
WR5+ (1)	5	4	3	2	1

In the left-most column are the five potential weekly tiers, with their associated scores in parentheses. Note that the highest score (5) correlates to the best tier finish (WR1), and so on down the list. In the top row are the five AIR score tiers, with the same sliding scale of scores (shown again in parentheses) as it relates from the best category to the worst.

Given the two sets of qualifiers and their respective sliding scales of scores, we have 25 possible unique weekly combinations. If the individual scores of each qualifier are multiplied together, we also have 25 associated scores. For example, if a player was a weekly WR1 and functioned with Superstar AIR efficiency, we can simply find the cell in the table above where they intersect (top left) and find the multiplicative score (5 x 5 = 25). If a player was a weekly WR3 with Below Average efficiency, his score would then be 3 x 2 = 6. And so on and so on…

We can tabulate these combined scores for every player, for every week they were active. Again, we have the necessary data – we know where they finished each week with regards to their positional peers (I used FFToday as my source), and the subsequent AIR scores are calculated by yours truly. All told, we can produce a seasonal player table like the one shown on the next page, containing all the pertinent pieces (I'll use **Allen Hurns** as my example). Please note that tables for EVERY player can be found in the Addendum to this study, complete with bye weeks and games missed due to injury (denoted as "N/A") included:

Week	PPR Finish	Status	Score	AIR	Status	Score	Total Score
1	33	WR3	3	1.36	Superstar	5	15
2	46	WR4	2	1.55	Superstar	5	10
3	25	WR3	3	2.33	Superstar	5	15
4	3	WR1	5	1.49	Superstar	5	25
5	6	WR1	5	1.61	Superstar	5	25
6	41	WR4	2	1.03	About Average	3	6
7	27	WR3	3	1.12	Above Average	4	12
8	Bye	Bye	Bye	Bye	Bye	Bye	Bye
9	8	WR1	5	1.57	Superstar	5	25
10	15	WR2	4	1.63	Superstar	5	20
11	62	WR5+	1	0.74	Below Average	2	2
12	55	WR5+	1	0.60	Tank	1	1
13	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	13	WR2	4	2.48	Superstar	5	20
15	69	WR5+	1	0.83	Below Average	2	2
16	3	WR1	5	1.22	Above Average	4	20
17	75	WR5+	1	0.74	Below Average	2	2
Total	-	-	-	-	-	-	*200*
Average	*32.1*	-	-	*1.35*	-	-	*13.3*

Note that I'm not going to include tables for all 50 players here. Once again, they can be found in the Excel Addendum. However, I will explain a couple of the columns, and then sum up the aggregate data.

The rightmost column shows the calculated weekly values when the AIR scores and weekly finish scores (scaled from 1-5 as shown above) are multiplied together. These were then summed up at the bottom of the table (row labeled "Total"), and also averaged per week, depending on how many weeks the receiver was active (row labeled "Average"). The average of the weekly AIR scores, as shown previously, is also noted, as is the average of each player's weekly fantasy finish.

To me, the three most important ways to differentiate the receivers are as follows: Total Score, Average Score, and Average Weekly Finish. On the next page, I'll start with the summary table for the Total Score values. They can be found sorted in a descending manner, with the same traffic light heat map coloration as shown previously:

Name	Team	Games	Total Score
Brandon Marshall	NYJ	16	265
Julio Jones	ATL	16	250
Allen Robinson	JAC	16	231
Odell Beckham Jr	NYG	15	226
Antonio Brown	PIT	16	223
DeAndre Hopkins	HOU	16	221
Eric Decker	NYJ	15	215
Doug Baldwin	SEA	16	209
Demaryius Thomas	DEN	16	208
AJ Green	CIN	16	204
Allen Hurns	JAC	15	200
Emmanuel Sanders	DEN	15	194
Brandin Cooks	NO	16	191
Larry Fitzgerald	ARI	16	189
Jeremy Maclin	KC	15	187
Jordan Matthews	PHI	16	185
Sammy Watkins	BUF	12	182
Calvin Johnson	DET	16	178
John Brown	ARI	15	178
Kamar Aiken	BAL	15	167
Jarvis Landry	MIA	16	163
James Jones	GB	16	161
Rueben Randle	NYG	16	157
Michael Crabtree	OAK	16	154
TY Hilton	IND	16	149
Golden Tate	DET	16	147
Amari Cooper	OAK	16	146
Mike Evans	TB	14	143
Travis Benjamin	CLE	16	139
Donte Moncrief	IND	16	136
Michael Floyd	ARI	14	136
Pierre Garcon	WAS	16	134
Willie Snead	NO	15	132
Jermaine Kearse	SEA	15	130
Tavon Austin	STL	16	128
Anquan Boldin	SF	14	126
Ted Ginn Jr	CAR	14	126
Terrance Williams	DAL	16	125

Name	Team	Games	Total Score
Danny Amendola	NE	14	119
Tyler Lockett	SEA	15	119
Randall Cobb	GB	16	119
Stefon Diggs	MIN	13	116
Julian Edelman	NE	9	114
Martavis Bryant	PIT	11	114
Markus Wheaton	PIT	16	112
Cole Beasley	DAL	16	108
Alshon Jeffery	CHI	9	103
Marvin Jones	CIN	16	102
Keenan Allen	SD	8	96
Nate Washington	HOU	13	92
Average	-	-	*159.0*

Shown next are the Average Scores. These perhaps take even more importance than the total scores, as they factor out any missed time. Once again, we'd obviously prefer our players be on the field for the whole season, but that just doesn't always happen. The average scores can therefore highlight players who would've otherwise been buried in the previous table:

Name	Team	Games	Average Score
Brandon Marshall	NYJ	16	16.6
Julio Jones	ATL	16	15.6
Odell Beckham Jr	NYG	15	15.1
Allen Robinson	JAC	16	14.4
Eric Decker	NYJ	15	14.3
Sammy Watkins	BUF	12	14.0
Antonio Brown	PIT	16	13.9
DeAndre Hopkins	HOU	16	13.8
Allen Hurns	JAC	15	13.3
Doug Baldwin	SEA	16	13.1
Demaryius Thomas	DEN	16	13.0
Emmanuel Sanders	DEN	15	12.9
AJ Green	CIN	16	12.8
Julian Edelman	NE	9	12.7
Jeremy Maclin	KC	15	12.5
Keenan Allen	SD	8	12.0
Brandin Cooks	NO	16	11.9
John Brown	ARI	15	11.9

Name	Team	Games	Average Score
Larry Fitzgerald	ARI	16	11.8
Jordan Matthews	PHI	16	11.6
Alshon Jeffery	CHI	9	11.4
Calvin Johnson	DET	16	11.1
Kamar Aiken	BAL	15	10.4
Martavis Bryant	PIT	11	10.4
Jarvis Landry	MIA	16	10.2
James Jones	GB	16	10.1
Rueben Randle	NYG	16	9.8
Michael Crabtree	OAK	16	9.6
Mike Evans	TB	14	9.5
TY Hilton	IND	16	9.3
Golden Tate	DET	16	9.2
Amari Cooper	OAK	16	9.1
Michael Floyd	ARI	14	9.1
Anquan Boldin	SF	14	9.0
Ted Ginn Jr	CAR	14	9.0
Stefon Diggs	MIN	13	8.9
Willie Snead	NO	15	8.8
Travis Benjamin	CLE	16	8.7
Danny Amendola	NE	14	8.5
Donte Moncrief	IND	16	8.5
Pierre Garcon	WAS	16	8.4
Jermaine Kearse	SEA	15	8.1
Tavon Austin	STL	16	8.0
Terrance Williams	DAL	16	7.8
Tyler Lockett	SEA	15	7.4
Randall Cobb	GB	16	7.4
Nate Washington	HOU	13	7.1
Markus Wheaton	PIT	16	7.0
Cole Beasley	DAL	16	6.8
Marvin Jones	CIN	16	6.4
Average	-	-	*10.6*

Lastly, as shown on the next page, are the average weekly finishes for each receiver. This can be viewed from a purely fantasy perspective, and helps supplement the tables above:

Name	Team	Games	Average Weekly Finish
Brandon Marshall	NYJ	16	15.0
Julio Jones	ATL	16	15.9
Julian Edelman	NE	9	17.3
DeAndre Hopkins	HOU	16	18.8
Odell Beckham Jr	NYG	15	20.3
Eric Decker	NYJ	15	20.6
Antonio Brown	PIT	16	21.1
Keenan Allen	SD	8	22.9
Larry Fitzgerald	ARI	16	23.0
Demaryius Thomas	DEN	16	23.3
Allen Robinson	JAC	16	24.3
Alshon Jeffery	CHI	9	25.2
Jarvis Landry	MIA	16	26.0
AJ Green	CIN	16	27.3
Jeremy Maclin	KC	15	28.5
Calvin Johnson	DET	16	30.8
Doug Baldwin	SEA	16	31.4
Brandin Cooks	NO	16	31.8
Allen Hurns	JAC	15	32.1
Michael Crabtree	OAK	16	32.3
John Brown	ARI	15	33.1
Sammy Watkins	BUF	12	33.5
Emmanuel Sanders	DEN	15	34.2
Jordan Matthews	PHI	16	34.8
Martavis Bryant	PIT	11	35.3
Mike Evans	TB	14	35.8
Golden Tate	DET	16	36.4
TY Hilton	IND	16	38.3
Ted Ginn Jr	CAR	14	38.4
Pierre Garcon	WAS	16	38.5
Randall Cobb	GB	16	39.5
Willie Snead	NO	15	39.5
Kamar Aiken	BAL	15	40.1
Amari Cooper	OAK	16	41.4
Travis Benjamin	CLE	16	41.4
Rueben Randle	NYG	16	41.8
Anquan Boldin	SF	14	41.9
Tavon Austin	STL	16	42.8

Name	Team	Games	Average Weekly Finish
Marvin Jones	CIN	16	45.6
Stefon Diggs	MIN	13	45.6
James Jones	GB	16	45.8
Donte Moncrief	IND	16	47.4
Danny Amendola	NE	14	48.4
Terrance Williams	DAL	16	48.5
Nate Washington	HOU	13	49.9
Michael Floyd	ARI	14	50.2
Jermaine Kearse	SEA	15	53.6
Tyler Lockett	SEA	15	54.0
Markus Wheaton	PIT	16	55.6
Cole Beasley	DAL	16	62.0
Average	-	-	*35.6*

As always, the categories above can be summed up into a singular table, and as always, it will be sorted in alphabetical order by player name, with the same coloration as above for the sake of clarity and consistency:

Name	Team	Games	Total Score	Average Score	Average Weekly Finish
Allen Hurns	JAC	15	200	13.3	32.1
Allen Robinson	JAC	16	231	14.4	24.3
Alshon Jeffery	CHI	9	103	11.4	25.2
Amari Cooper	OAK	16	146	9.1	41.4
Anquan Boldin	SF	14	126	9.0	41.9
Antonio Brown	PIT	16	223	13.9	21.1
Brandin Cooks	NO	16	191	11.9	31.8
Brandon Marshall	NYJ	16	265	16.6	15.0
Calvin Johnson	DET	16	178	11.1	30.8
Cole Beasley	DAL	16	108	6.8	62.0
Danny Amendola	NE	14	119	8.5	48.4
DeAndre Hopkins	HOU	16	221	13.8	18.8
Demaryius Thomas	DEN	16	208	13.0	23.3
Donte Moncrief	IND	16	136	8.5	47.4
Doug Baldwin	SEA	16	209	13.1	31.4
Emmanuel Sanders	DEN	15	194	12.9	34.2
Eric Decker	NYJ	15	215	14.3	20.6
Golden Tate	DET	16	147	9.2	36.4
James Jones	GB	16	161	10.1	45.8

Name	Team	Games	Total Score	Average Score	Average Weekly Finish
Jarvis Landry	MIA	16	163	10.2	26.0
Jeremy Maclin	KC	15	187	12.5	28.5
Jermaine Kearse	SEA	15	130	8.1	53.6
John Brown	ARI	15	178	11.9	33.1
Jordan Matthews	PHI	16	185	11.6	34.8
Julian Edelman	NE	9	114	12.7	17.3
Julio Jones	ATL	16	250	15.6	15.9
Kamar Aiken	BAL	15	167	10.4	40.1
Keenan Allen	SD	8	96	12.0	22.9
Larry Fitzgerald	ARI	16	189	11.8	23.0
Markus Wheaton	PIT	16	112	7.0	55.6
Martavis Bryant	PIT	11	114	10.4	35.3
Marvin Jones	CIN	16	102	6.4	45.6
Michael Crabtree	OAK	16	154	9.6	32.3
Michael Floyd	ARI	14	136	9.1	50.2
Mike Evans	TB	14	143	9.5	35.8
Nate Washington	HOU	13	92	7.1	49.9
Odell Beckham Jr	NYG	15	226	15.1	20.3
Pierre Garcon	WAS	16	134	8.4	38.5
Randall Cobb	GB	16	119	7.4	39.5
Rueben Randle	NYG	16	157	9.8	41.8
Sammy Watkins	BUF	12	182	14.0	33.5
Stefon Diggs	MIN	13	116	8.9	45.6
Tavon Austin	STL	16	128	8.0	42.8
Ted Ginn Jr	CAR	14	126	9.0	38.4
Terrance Williams	DAL	16	125	7.8	48.5
Travis Benjamin	CLE	16	139	8.7	41.4
Tyler Lockett	SEA	15	119	7.4	54.0
Willie Snead	NO	15	132	8.8	39.5
AJ Green	CIN	16	204	12.8	27.3
TY Hilton	IND	16	149	9.3	38.3
Average	-	-	*159.0*	*10.6*	*35.6*

So now that all the data is finally in hand, it's time to draw a few quick conclusions about players who can now be viewed more favorably, or unfavorably, when all the numbers are viewed together. Onto the last chapter!

CONCLUSION

No more tables, I promise!

From this point on, I'm going to provide the distilled essence of my thoughts as it relates to ownership recommendations. It's not going to be an inclusive list – we should *always* draw our own conclusions, after all – but at the least there are a handful of players I want to highlight. As it relates to what I believe you should be doing, I'll summarize the receivers into four categories: Screaming Buys, Buys, Holds, and Sells. Let's start with the Screaming Buys.

SCREAMING BUYS

Brandon Marshall, WR NYJ – Quite simply he was the best combination of real life and fantasy football in 2015. He was at the head of every table in the last chapter, which meshed fantasy finishes and fantasy efficiency. He also had a top-10 FDR metric, and his ARC scores were all average to above average. Age is just a number, and with Marshall it's far from the most important. While I can't ever guarantee anything, this is a guy who should provide at least two more years of elite NFL and fantasy production, who can be had on the cheap.

Allen Hurns, WR JAC – Yes, he's the lesser of the two Jacksonville Allens, but he's also decidedly cheaper. I'm not certain if owners remain reticent about his former undrafted status, but the guy has been on fire through two years in the league. His AIR score was top-three, and his FDR was top-six, not surprisingly leading to a top-tier SumR, ORE-A and ORE-F. His ARC-T was a bit below average, lending some credence to those who are nervous about a touchdown regression, but Hurns offers WR2 upside for a fraction of the price.

Doug Baldwin, WR SEA – Yes, he scored the ball a ton, but it was more than just that. His relative ratios for receptions, yards and touchdowns were all well above average, helping to explain why he had a top-two AIR score for the year. He was also top-ten in terms of an average score for fantasy finish/weekly AIR, which isn't terribly surprising given his insane close to the season. Following the Seahawks bye, Baldwin had five perfect scores (25 points) out of eight games, with one more just missing (20 points). Seattle paid the man for a reason, and it's time he started getting the attention he deserved.

Eric Decker, WR NYJ – Decker was the only player chronicled to finish as a weekly WR3 or better every game this season. He was also largely efficient, helping explain how he never had a combined weekly score under eight points. Much like with Hurns, his ARC-T shows some reason for pause, given the heavy reliance on touchdowns (third highest amongst all players), but his top-shelf FDR shows that he knows how to get the ball to where it needs to be. As is the case with all of these players, Decker comes relatively cheap (he's mystifyingly a WR4 in startup ADP), and you should try to acquire him as such.

Kamar Aiken, WR BAL – If there's a Ravens receiver I want to own, it's this guy. His AIR of 1.07 was only middling, but his FDR of 1.35 (tied for tops in the league) shows that the NFL prowess

should soon translate over to the fantasy bottom line. He was also as steady as they came, with his all three of his scoring component percentages hitting the average mark. He won't offer a ton of room for improvement, but at the price of a firm handshake you can own the guy who was a weekly WR3 or better in seven of his last eight games in 2015.

BUYS

Julio Jones, WR ATL – He led the league in WR1 games, and never tanked a week with regards to AIR efficiency. He was just behind Marshall in terms of all three categories in the overall receiver hierarchy, and was a top-15 guy in terms of FDR. All the more amazing, Jones actually scored below average in terms of touchdowns, with a massive chance for improvement as based on his ARC-T score. Honestly, he's my top overall dynasty asset, and the only reason I didn't place him in the category above is because he's already valued as an elite guy.

Allen Robinson, WR JAC – I can very nearly copy and paste what I wrote for Hurns above, except A-Rob generally did it with a greater magnitude, helping explain his hefty current price tag. All told though, the numbers don't lie – Robinson was just behind fellow third-year player **Odell Beckham** as it relates to average score in the receiver hierarchy, and he even bested him in AIR. His reliance on touchdowns is scary, but if **Blake Bortles** can improve his accuracy, Robinson's receptions and yards should see an uptick, as evidenced by his ARC-R and ARC-Y scores. Though it seems crazy to believe, he might ultimately go down as the best receiver from the much ballyhooed 2014 draft class.

Sammy Watkins, WR BUF – Watkins led the league in AIR, while also posting a top-three FDR score. As such he easily lapped the field in all of SumR, ORE-A and ORE-F, proving to be a beast in both fantasy and real life football. The scary thing about Watkins is, with above average scores in all of the ARC metrics, it's reasonable to assert he actually has room to grow with collecting all of receptions, yards and scores. Given his sublime efficiency in 2015, that's saying something. Considering seven out of his final nine games were WR2 performances or better, I think it's fair to assert that, quite literally, the only thing holding him back is injury. Once again, if not for relative price, he'd find himself in the category above.

Alshon Jeffery, WR CHI – The majority of Jeffery's fantasy efficiency metrics hovered around average, but he had a league-leading FDR score. As I mentioned earlier, I want the guys who can perform on the NFL level, as I believe it will translate to the fantasy box scores. Jeffery's ARC-T score also suggests he should return to his previous levels of scoring, and if he does he should improve upon his seven of nine games finishing as a WR3 or better.

Also buy: **Keenan Allen**, **Jeremy Maclin**, **Emmanuel Sanders**, **John Brown** and **Mike Evans**

HOLDS

AJ Green, WR CIN – Forget the anecdotal evidence suggesting he'll be the main target on the Cincy offense (even though it's probably true). Look instead to the fact that, if and when that

comes to fruition, Green will largely function as an efficient receiver. His AIR score was above average, as were his SumR and ORE scores. Potential touchdown regression could occur (ARC-T), but he has the ability to do even more as it relates to receptions and yards (ARC-R and ARC-Y). His place in the fantasy hierarchy appears secure.

Demaryius Thomas, WR DEN – I've written before that I view DT as a sublime fantasy asset, and I stand by that. He was a tier-one guy as it relates to the overall fantasy hierarchy, and both his percentages of WR2 or better and WR3 or better games were top-five and top-seven quantities, respectively. The biggest thing missing from his repertoire was touchdown scoring, but his top-ten ARC-T suggests he's capable of more. 2015 wasn't his finest moment, but it certainly wasn't his nadir either.

Willie Snead, WR NO – With regards to nearly every advanced fantasy metric, Snead was roughly below average. So why is he a buy? Simple – he only scored the ball three times, meaning that even hitting average was quite the achievement. His above average FDR also suggests that he's doing what he should be doing between the white lines, and that scoring plays should soon come. If not, his relative ratios for receptions and yards were above average, meaning that the floor should remain.

Donte Moncrief, WR IND – Moncrief has an argument to move to the tier above, but the main thing holding him back is he simply didn't produce. He was only a WR3 or better half of the time, and a WR2 or better 25% of the time. Much of that can be explained by the Indy offense (**TY Hilton** experienced similar woes), as Moncrief's AIR scores were decidedly above average, both for the season and on a weekly basis. With relative ratios and ARC scores average or better, to go with an above average FDR, Moncrief appears to be a player on the rise. If he was more cost effective, I'd be a lot more bullish on acquiring his services.

Julian Edelman, WR NE – I mentioned above that Eric Decker was the only receiver to function as a WR3 or better each and every week he played. Edelman missed that mark by exactly one week and one spot, when he finished as the WR37 after playing a quarter and a half in his final game of the regular season. His top-14 finish in the average score hierarchy shows that he was a great asset, and despite being a slot receiver he actually has room for improvement in both receptions and yards (ARC-R and ARC-Y). Touchdown regression could hurt, but all the negatives are already built into his price. If you own him, keep him.

SELLS

Brandin Cooks, WR NO – Did Brandin Cooks *really* take a huge leap forward in 2015? He was below average in terms of WR3 or better finishes, had a relatively middling AIR score, and had one of the worst FDR scores out of all the receivers studied. This led to awful SumR and ORE scores, which is troubling for a player who was too reliant on touchdowns. If he can improve his catching efficiency, it would go a long way towards solidifying Cooks' value.

Amari Cooper, WR OAK – No, I'm not just trying to play the contrarian here. If we were only to look at the raw numbers, it's easy to come away with the belief that Cooper had a great rookie season. And while I'm trying to mitigate that, as it's not easy to put up those types of numbers in year one, the lack of efficiency was startling. Cooper's AIR score barely surpassed 1.00, and his FDR was sub-average relative to his peers. Not surprisingly, he then found himself at the bottom of the SumR and ORE ratings as well. He was a bit better than expected in terms of gaining yards relative to his offense, but when league-wide percentages were taken into account he suffered across the board in the ARC metric. If he was consistently scoring points, I think we could all live with it – but 50% of his 2015 contests ended with a finish as a PPR WR4 or worse. Again, he's a rookie, but I just don't think he did enough to be considered a top half of the first round startup guy. If you can sell him for a guy like Jeffery and change, I'd do so without question.

Michael Crabtree, WR OAK – See Cooper above, but fortunately he's a hell of a lot cheaper. With that said, he honestly wasn't very good last year, and there's little to no quantitative reason to believe he'll improve in 2016. Don't get me wrong, Crabtree was a guy who could've helped you win your league at a bottom basement price last season, but it's fair to assert he's a bit overrated where he stands now.

Martavis Bryant, WR PITT – Let's throw the suspension aside for a moment, shall we? I suppose this is where the great "Film versus Metrics" debate comes into play, because the fact is Bryant wasn't actually good last year. His AIR score barely met expectations, and he had (by far) the worst FDR out of all the receivers I looked at, with SumR and ORE metrics to match. With the exception of his ability to score touchdowns, there's little statistical reason to believe he'll improve moving forward. With **Antonio Brown** hogging targets, and **Markus Wheaton** actually exceeding his production in the second half of last season, I see no reason to assume Bryant is going to return as some sort of fantasy force.

Ted Ginn, WR CAR – No, I doubt you'll get much of anything in return, but I think we just saw the Carolina receiver's moment in the sun. Ginn had the highest touchdown percentage out of any of the PPR Top-50 receivers, but could still barely scrape by with an expected AIR score. His FDR was also bottom basement, which isn't terribly surprising given that he caught fewer than 50% of his passes. Even with the scoring plays, his ARC-T suggests he's in for a massive regression, and it doesn't appear likely he'll make up for it with receptions or yards. Quite honestly, I think I'd take a future third round pick for the guy.

Tyler Lockett, WR SEA – I won't pretend to know receivers better than Matt Harmon, because I don't. But I just can't get on board with the endorsement of the soon-to-be second year receiver. Yes, he closed out the year well, but he's due for a touchdown regression even if his receptions and yards stand to improve. His FDR shows that he was at least average last year, which actually says quite a bit for a rookie. But I just can't get past the fact that his WR5+ percentage of 68.8% was the worst amongst all 50 pass catchers. Add in the recent "Harmon Bump" to his cost, and I'm cashing out.

Marvin Jones, WR DET – Jones might've been the worst receiver out of the grouping I studied. He had the lowest AIR score, the second lowest FDR, and his ARC scores suggest improvement is fiction in its finest. I suppose going from the WR2 in Cincy to the WR1b in Detroit could be viewed as some sort of positive, but this is a guy who was only a PPR WR2 or better three times last year. I don't get the love, I don't get the contract, and I'd be getting him the hell off my roster if others are buying in.

Also sell: **Danny Amendola**, **Golden Tate** and **Larry Fitzgerald**

So that's that! Don't forget that all the player tables can be found in the Addendum to this work, so that you can use them side by side with the analyses above. I know this was akin to a fantasy dissertation, and could come across as a bit tedious at times, but at the very least I hope it helped you think outside the box and dig a little deeper than you would have otherwise. Thank you for reading!

Follow me on Twitter @EDH_27