Fantasy Football Weekly Report

Clay McLeod

October 21, 2014

Introduction

Hello! This is a completely automated Fantasy Football report produced by Clay McLeod. I'm using this as sort of an experiment to package together all of my fantasy football data analysis into one, easy to understand package. As I'm sure you can imagine, this system is pretty cutting edge so it's unlikely I will get everything formatted and explained correctly the first time. Continue to think of this report as being in it's experimental stage. I'm releasing it to get feedback from the community.

Updates

- Greatly improved DPS algorithm due to popular demand
- Added Rushing and Receiving Statistics category
- Please let me know how I can improve this system using my contact details below. This includes what metrics you would like to see!
- I really need help with spelling corrections! I'm kind of depending on crowdsourcing this as most of my time on the project is going into developing the system. Please let me know if you come across any spelling errors

Contact Information

- Reddit: http://reddit.com/u/clmcl
- Website: http://claymcleod.github.io/blog/

Tiered Visualizations

Motivation

Visualization of data is obviously very important. But often, as in the case of fantasy football, it can be crucial to making sense of data that normally very difficult to interpret. This post was inspired by the Fantasy Football Tier Visualiations performed by Boris Chen at the New York Times.

Visualizations

Many of you are familiar with the NYT visualizations referenced above. However, I don't believe the NYT's visualizations are capturing the full potential of this method. Therefore, I am developing my own methods of visualizing the data and posting them.

Differences

There are two main differences between these visualizations and the New York Times visualizations. First, my visualizations use the most current rankings whereas the New York Times visualizations appear to use data from August 21 (about a month ago). Second, my algorithm finds the most optimal number of tiers, while the New York Times visualizations force the algorithm to find 8 tiers. Hopefully you find these insightful.

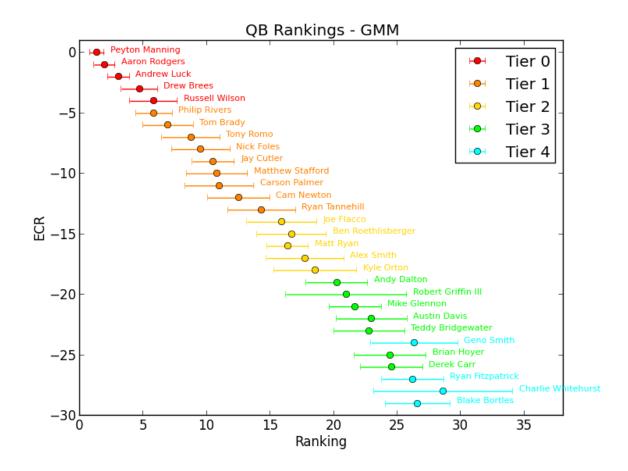


Figure 1: QB Tiered Rankings

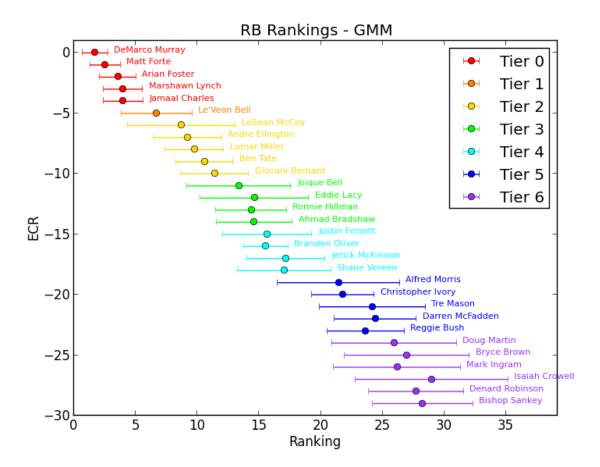


Figure 2: RB Tiered Rankings

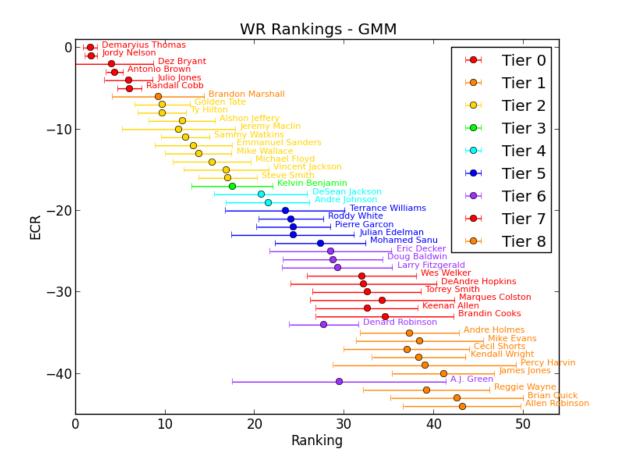


Figure 3: WR Tiered Rankings

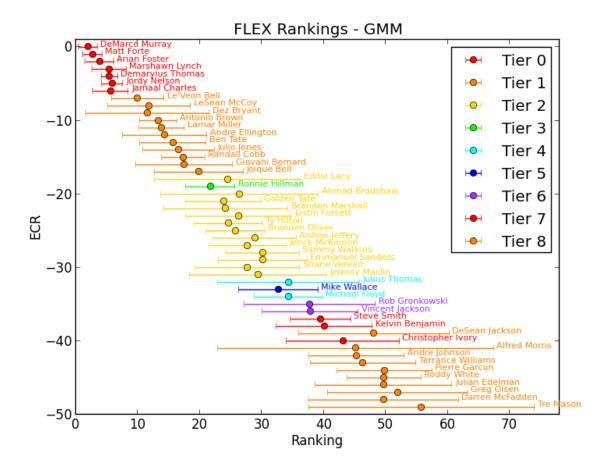


Figure 4: FLEX Tiered Rankings

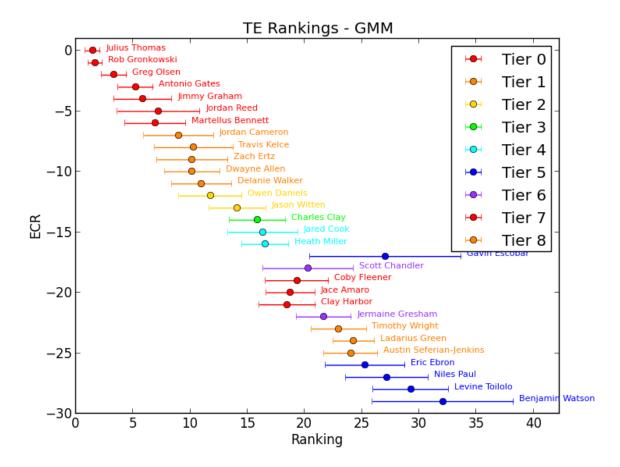


Figure 5: TE Tiered Rankings

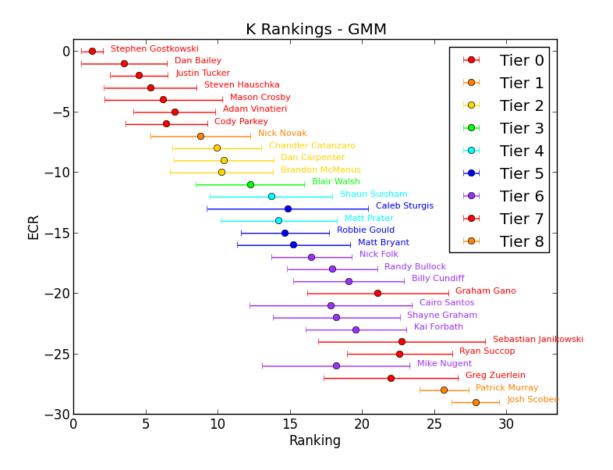


Figure 6: K Tiered Rankings

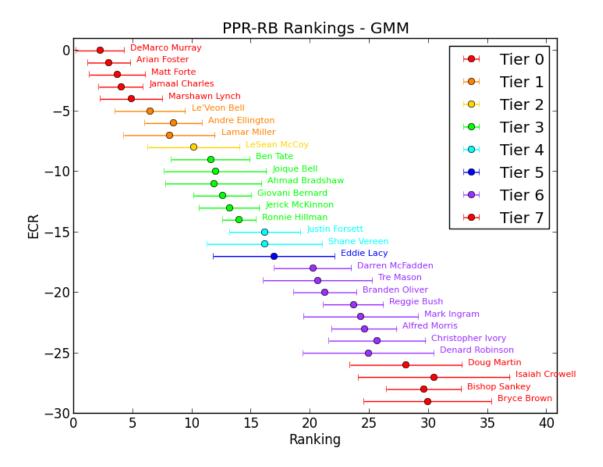


Figure 7: PPR-RB Tiered Rankings

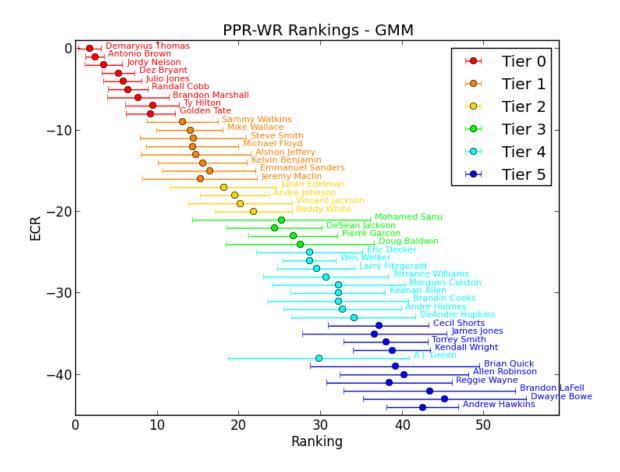


Figure 8: PPR-WR Tiered Rankings

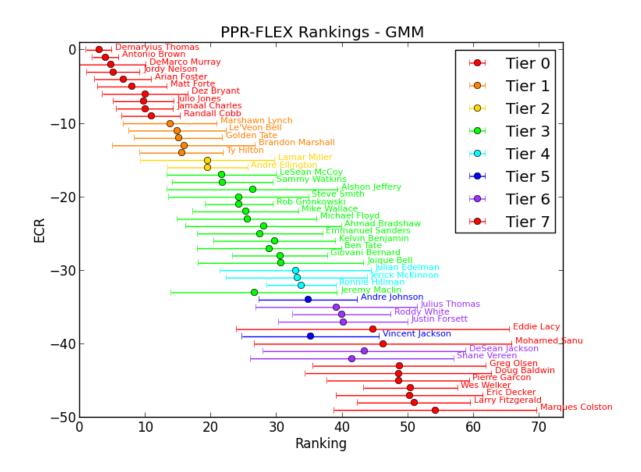


Figure 9: PPR-FLEX Tiered Rankings

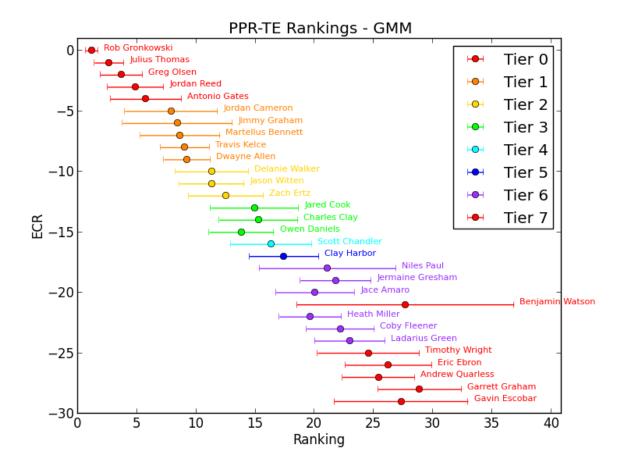


Figure 10: PPR-TE Tiered Rankings

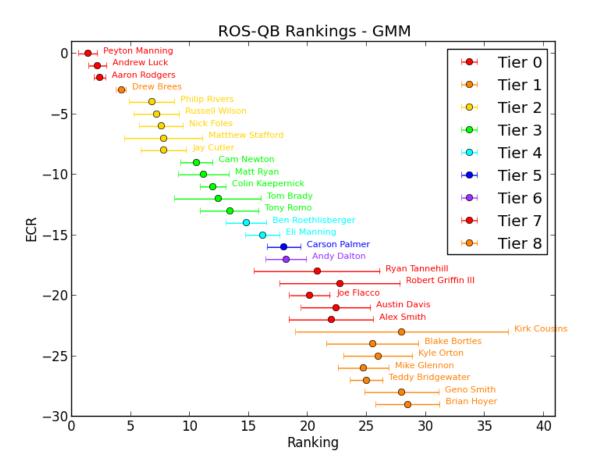


Figure 11: ROS-QB Tiered Rankings

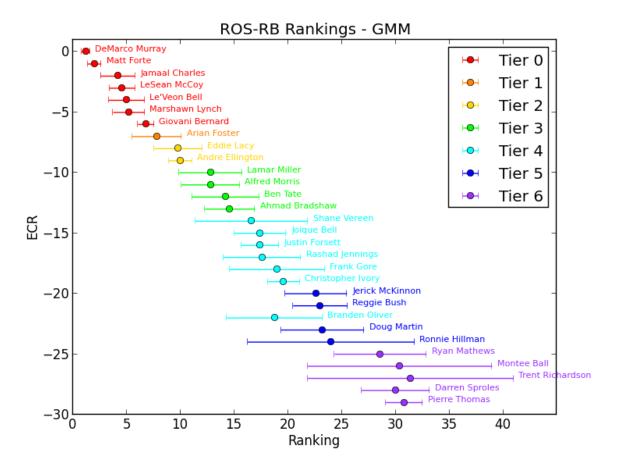


Figure 12: ROS-RB Tiered Rankings

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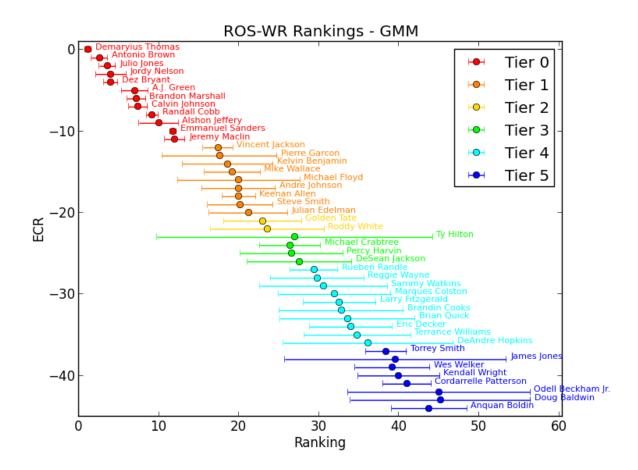


Figure 13: ROS-WR Tiered Rankings

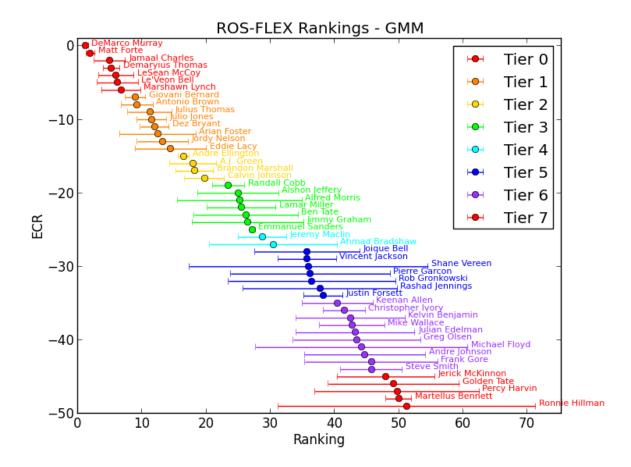


Figure 14: ROS-FLEX Tiered Rankings

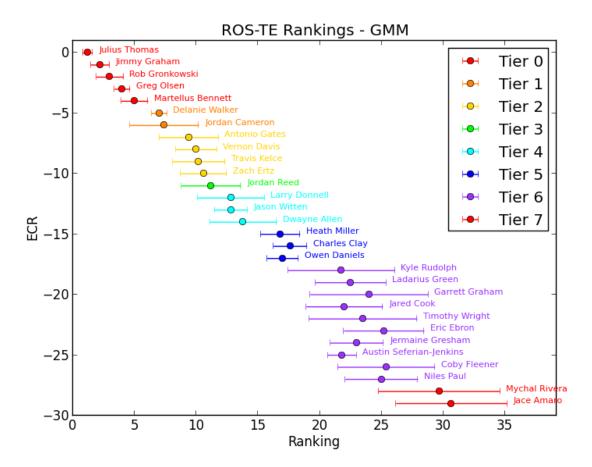


Figure 15: ROS-TE Tiered Rankings

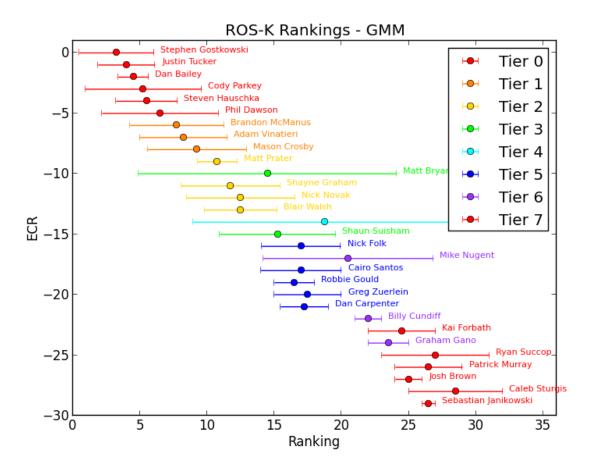


Figure 16: ROS-K Tiered Rankings

Rushing Statistics

Motivation

Understanding a team's rushing habits can help us get discover vital trends to picking RBs. TODO: Finish Motivation

Teams sorted by % of their rushing offensive plays

Team	Percentage
1. HOU	51.6949%
2. CLE	51.4019%
3. DAL	49.8753%
4. SF	48.9796%
5. SEA	48.2877%
6. CIN	48.2428%
7. SD	47.6190%
8. NYG	46.7337%
9. KC	46.2264%
10. NE	43.7346%
11. BAL	42.6768%
12. TEN	41.9718%
13. MIN	41.6667%
14. NYJ	41.4508%
15. PIT	41.3793%
16. MIA	41.1411%
17. GB	40.9605%
18. DET	40.8629%
19. BUF	40.8377%
20. IND	40.6522%
21. PHI	40.4878%
22. DEN	40.1216%
23. ARI	39.5498%
24. CAR	39.4872%
25. WAS	37.5979%
26. CHI	37.5000%
27. STL	37.4269%
28. NO	36.6477%
29. TB	35.5301%
30. ATL	35.4167%
31. OAK	32.6241%
32. JAC	32.2404%

Top 15 people who might rush on any given rush by their team (%)

Player	Percentage
1. DeMarco Murray	79.5000%
2. LeSean McCoy	69.8795%
3. Alfred Morris	67.3611%
4. Matt Forte	67.3469%
5. Andre Ellington	65.8537%
6. Darren McFadden	64.1304%
7. Le'Veon Bell	62.5000%
8. Arian Foster	57.9235%
9. Giovani Bernard	56.9536%
10. Marshawn Lynch	56.0284%
11. Eddie Lacy	55.1724%
12. Stevan Ridley	52.8090%
13. Steven Jackson	50.7353%
14. Knile Davis	49.6599%
15. Rashad Jennings	48.9247%

Top 15 people who might rush on any given offensive play by their team (%)

Player	Percentage
1. DeMarco Murray	39.6509%
2. Arian Foster	29.9435%
3. LeSean McCoy	28.2927%
4. Giovani Bernard	27.4760%
5. Marshawn Lynch	27.0548%
6. Andre Ellington	26.0450%
7. Le'Veon Bell	25.8621%
8. Alfred Morris	25.3264%
9. Matt Forte	25.2551%
10. Frank Gore	23.7245%
11. Stevan Ridley	23.0958%
12. Knile Davis	22.9560%
13. Rashad Jennings	22.8643%
14. Eddie Lacy	22.5989%
15. Darren McFadden	20.9220%

Top 15 people who will score a rushing touchdown on any given rush by their team (%)

Percentage
3.0000%
2.7322%
2.6490%
2.4242%
2.3256%
2.1898%
2.1277%
2.0833%
2.0690%
2.0408%
1.9868%
1.8750%
1.8072%
1.7751%
1.6129%

Top 15 people who will score a rushing touchdown on any given offensive play by their team (%)

Player	Percentage
1. DeMarco Murray	1.4963%
2. Arian Foster	1.4124%
3. Giovani Bernard	1.2780%
4. Isaiah Crowell	1.2461%
5. Marshawn Lynch	1.0274%
6. Jeremy Hill	0.9585%
7. Knile Davis	0.9434%
8. Lamar Miller	0.9009%
9. Mark Ingram	0.8523%
10. Eddie Lacy	0.8475%
11. Alfred Morris	0.7833%
12. Matt Asiata	0.7812%
13. Justin Forsett	0.7576%
14. Darren Sproles	0.7317%
15. Russell Wilson	0.6849%
	1

Receiving Statistics

Motivation

Understanding a team's receiving habits can help us get discover vital trends to picking WRs. TODO: Finish Motivation

Teams sorted by % of their passing offensive plays

Team	Percentage
1. OAK	65.9574%
2. ATL	61.9792%
3. NO	61.9318%
4. TB	60.4585%
5. JAC	60.3825%
6. WAS	59.5300%
7. CHI	58.6735%
8. DEN	58.0547%
9. STL	57.8947%
10. PHI	57.8049%
11. CAR	57.4359%
12. IND	57.3913%
13. ARI	57.2347%
14. MIA	55.8559%
15. BUF	55.7592%
16. BAL	55.5556%
17. GB 18. NYJ	54.8023%
18. NYJ	54.6632%
19. PIT	54.4335%
20. DET	53.8071%
21. TEN	53.2394%
22. NE	53.0713%
23. MIN	52.6042%
24. CIN	51.1182%
25. SD	50.1253%
26. KC	49.6855%
27. NYG	49.4975%
28. SEA	47.9452%
29. SF	47.7041%
30. DAL	47.6309%
31. CLE	46.7290%
32. HOU	45.4802%

Top 15 people who catch a pass on any given pass by their team (%)

Percentage
22.1649%
21.1180%
20.0000%
18.8482%
18.5520%
18.5185%
18.4874%
18.3246%
17.9245%
17.1123%
16.8750%
16.2304%
16.0000%
15.9091%
15.7143%

Top 15 people who will catch a pass on any given offensive play by their team (%)

Player	Percentage
1. Jordy Nelson	12.1469%
2. Matt Forte	11.7347%
3. Julio Jones	11.4583%
4. Emmanuel Sanders	10.6383%
5. Antonio Brown	10.0985%
6. Julian Edelman	9.8280%
7. Jimmy Graham	9.6591%
8. Golden Tate	9.6447%
9. Andre Johnson	9.6045%
10. Demaryius Thomas	9.4225%
11. James Jones	9.2199%
12. Martellus Bennett	9.1837%
13. Brandin Cooks	9.0909%
14. Dez Bryant	8.9776%
15. Steve Smith	8.8384%

Top 15 people who will score a receiving touchdown on any given pass by their team (%)

Percentage
4.7120%
3.6082%
3.0000%
2.6178%
2.5773%
2.5000%
2.2624%
2.2321%
2.1739%
2.1505%
2.1429%
2.0942%
2.0942%
2.0305%
2.0000%

Top 15 people who will score a receiving touchdown on any given offensive play by their team (%)

Percentage
2.7356%
1.9774%
1.5038%
1.4124%
1.2821%
1.2755%
1.2531%
1.2469%
1.2315%
1.2158%
1.2012%
1.0870%
1.0638%
1.0638%
1.0274%

RB Visualizations

Motivation

Visualization of data is obviously very important. But often, as in the case of fantasy football, it can be crucial to making sense of data that normally very difficult to interpret. This post was inspired by the Fantasy Football Tier Visualiations performed by Boris Chen at the New York Times.

Note: Sorry if some of these are hard to read. I did my best to make them visible.

Name	Fantasy Points (Rushing)	Fantasy Points (Receiving)	Fumbles	Fantasy Points (Total)
DeMarco Murray	133.3	15.9	4	141.2
Matt Forte	62.8	55.6	1	116.4
Arian Foster	81.3	13.1	1	92.4
Marshawn Lynch	58.5	32.5	0	91.0
Jamaal Charles	41.0	17.5	1	56.5
Le'Veon Bell	60.2	25.1	0	85.3
LeSean McCoy	48.2	7.4	2	51.6
Andre Ellington	45.3	32.0	1	75.3
Lamar Miller	63.1	17.5	3	74.6
Ben Tate	39.9	-0.4	0	39.5
Giovani Bernard	64.1	17.7	0	81.8
Joique Bell	45.4	11.5	2	52.9
Eddie Lacy	60.9	8.6	2	65.5
Ronnie Hillman	36.0	5.2	1	39.2
Ahmad Bradshaw	39.6	57.2	2	92.8
Justin Forsett	68.3	11.8	0	80.1
Branden Oliver	43.6	19.5	0	63.1
Jerick McKinnon	30.9	9.3	0	40.2
Shane Vereen	31.9	30.5	0	62.4
Alfred Morris	62.0	3.9	2	61.9
Christopher Ivory	61.2	10.3	0	71.5
Tre Mason	18.5	1.2	1	17.7
Darren McFadden	39.9	8.8	0	48.7
Reggie Bush	23.1	16.4	0	39.5
Doug Martin	19.9	5.5	0	25.4

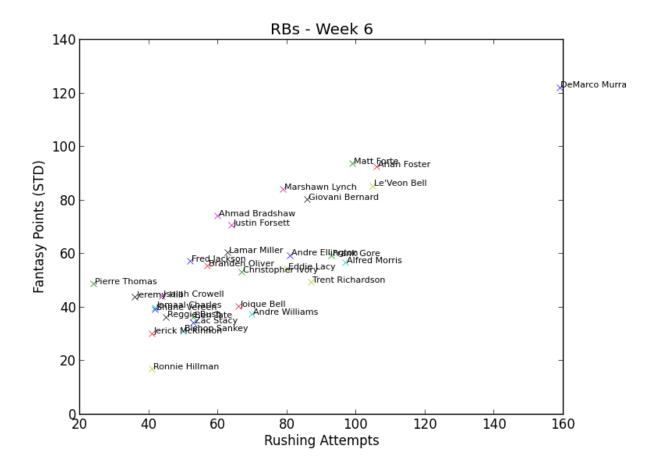


Figure 17: RB Visualization 1

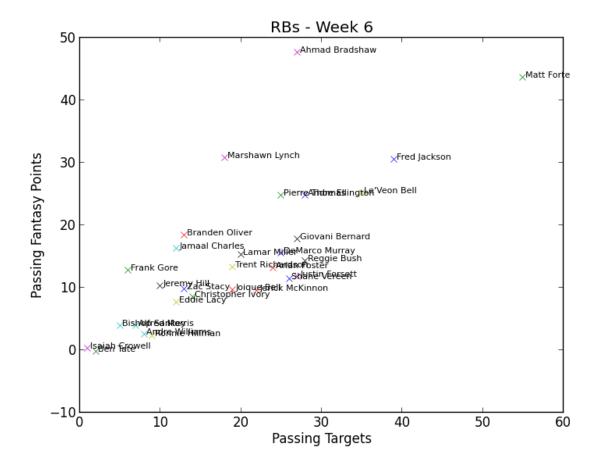


Figure 18: RB Visualization 2

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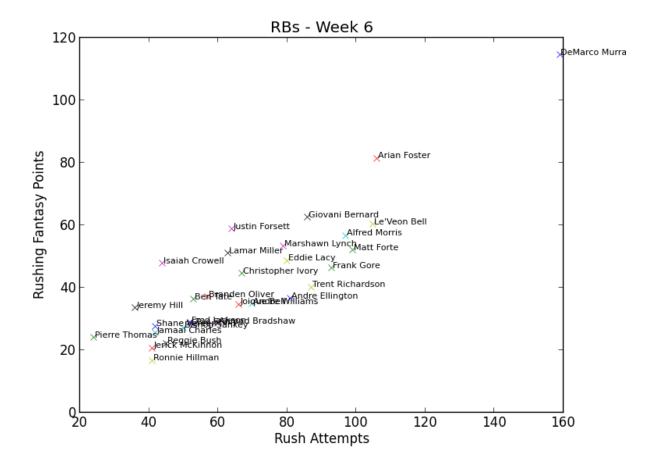


Figure 19: RB Visualization 3

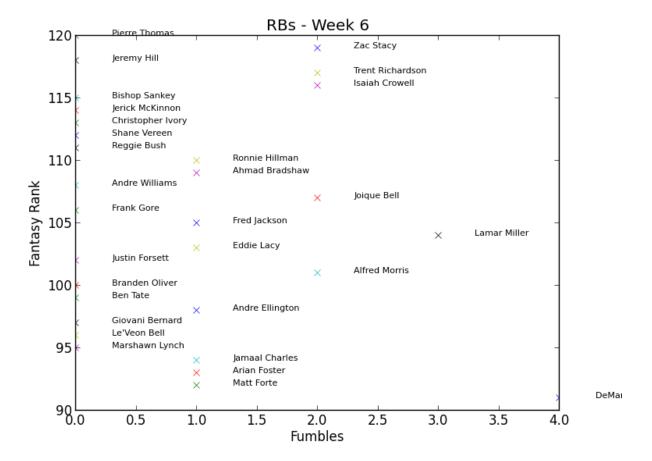


Figure 20: RB Visualization 4

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WR Visualizations

Motivation

Visualization of data is obviously very important. But often, as in the case of fantasy football, it can be crucial to making sense of data that normally very difficult to interpret. This post was inspired by the Fantasy Football Tier Visualiations performed by Boris Chen at the New York Times.

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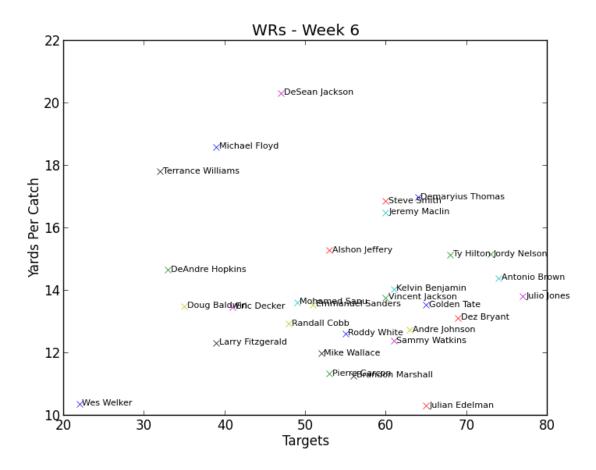


Figure 21: WR Visualization 1

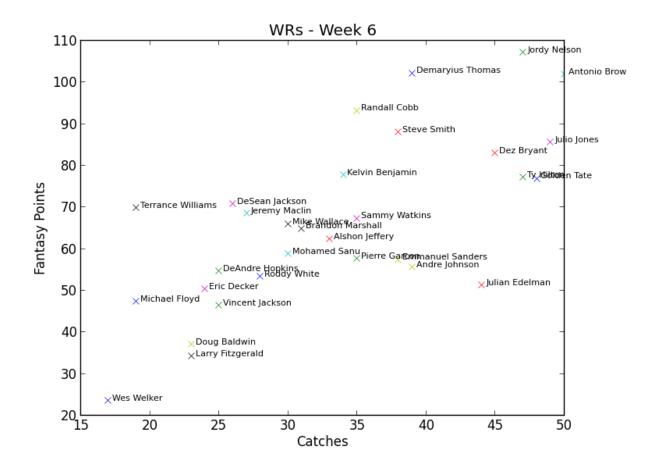


Figure 22: WR Visualization 2

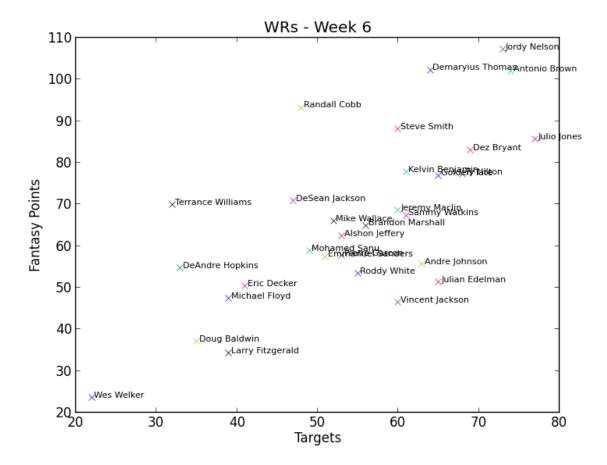


Figure 23: WR Visualization 3

DPS Graphs

DPS Analysis Overview

- DPS (Delta Ranking per STD) is a metric I'm fine tuning to perform all sorts of automated player analysis, such as buy-sell-hold labeling and sleeper detection. This model treats player's like stock and the trades / waiver wire pickups as the stock market. Just like the real stock market, projecting how a player's performance to date vs. how experts say that stock should perform in the future can be really helpful in a number of ways.
- The first rule is to understand that this chart is a tool, not a guideline. Just like an expert's stock market analysis, it can only suggest players who are undervalued or overvalued for you to go out and research. This chart is not predicting a player's performance in the future. In fact, it's not predicting anything at all It simply looking at how the player has done compared to the overall consensus on how he should be doing.
- Please remember that this chart has absolutely no idea what the public's general consensus about that player is. Since that is something that is outside the realm of this algorithm, it simply suggests players that might be good to pickup and leaves the rest of the analysis to you! Here is a post I made to address this idea in a statistical sense:
- I essentially separate two measures of performance how experts say a player should be playing and how they are actually playing. Note that there is no mention of how the general public feels about each player, as that is extremely hard to quantify reliably. So the phenomena that you are talking about (and most of the confusion about this metric) stems from the idea that whether a player is "underperforming" and whether a player is "tradeable" are not equivalent. If you want to talk about this statistically, basically this means that figuring out if a player is tradeable is not a pure function of their past performance there is some other factor in the equation that takes into account how popular a player is, when he was drafted, intangibles, etc. This is why I say in the description that this is a tool, not a guideline since it's too difficult to quantify, this graph solves half of the "buy low, sell high" equation and leaves the incalculable part to your discretion.

The Metrics

- DPS is the Delta per Std metric. This is the equivalent of looking at a player's current fantasy ranking (regardless of whether they have been on a bye/injured or not) and comparing it to where the general consensus on that player is. The formula goes like this ((where players are actually ranked) (where experts, on average, say they should be ranked)) / (that player's standard deviation). Use this to determine who is a high sell/low buy when dealing with an inexperienced FFL player.
- DPS Adjusted is the same thing as DPS, but this metric does account for whether a player has missed
 a game from injury or a bye. This metric is probably better to use if your league is packed with
 experienced FFL players like mine.
- Sleeper/Dump is an algorithmic approximation for whether a player could be a potential sleeper or dump. This algorithm simply checks whether a projected player is outside the top 2/3 of the pack in their respective position and has a good potential to greatly improve. If a player has been out on injury, sometimes they will show up as a Sleeper. There is not any reliable way to account for this in the simulation, so we will all just have to be okay with that and use our heads. This does not mean that every player labelled sleeper is actually a sleeper! The algorithm has no idea what the general public's perception of a certain player is, because that is not readily quantifiable. Therefore, it can't take into account that your player was drafted very high and has been underperforming.

How To Use This Chart

• Again, remember that this chart is a tool, not a guideline. It can only suggest players who are undervalued or overvalued for you to go out and research. This chart is not predicting a player's

- performance in the future. In fact, it's not predicting anything at all It simply looking at how the player has done compared to the overall consensus on how he should be doing.
- Roughly speaking, positive numbers mean a player will increase in ranking (possible buy) and negative numbers mean that player will decline in ranking (possible sell). Anywhere near 0 means they will keep about the same rank (possibly hold). Obviously, the greater the magnitude, the higher degree of that statistic..

DPS Rankings - QB

Rank	Player	DPS	DPS Adjusted	(S)leeper/(D)ump
1	Andrew Luck	-1.16	-0.17	
2	Aaron Rodgers	1.21	0.17	
3	Philip Rivers	-0.7	-0.1	
4	Peyton Manning	7.05	1.17	
5	Russell Wilson	0.0	0.0	
6	Jay Cutler	-2.42	-0.35	
7	Matt Ryan	-4.95	-0.71	
8	Joe Flacco	-2.19	-0.31	
9	Tony Romo	0.87	0.12	
10	Matthew Stafford	0.42	0.06	
11	Tom Brady	2.52	0.36	
12	Drew Brees	6.35	1.06	
13	Cam Newton	0.41	0.07	
14	Ben Roethlisberger	-0.73	-0.1	
15	Ryan Tannehill	0.75	0.13	
16	Alex Smith	-0.33	-0.05	
17	Ryan Fitzpatrick	-3.69	-0.53	
18	Nick Foles	4.34	0.72	
19	Andy Dalton	0.0	0.0	
20	Austin Davis	-0.36	-0.06	
21	Geno Smith	-2.34	-0.33	
22	Brian Hoyer	-0.71	-0.12	
23	Derek Carr	-0.81	-0.14	
24	Mike Glennon	0.98	0.24	
25	Blake Bortles	-1.17	-0.23	
26	Jake Locker	-1.61	-0.4	
27	Carson Palmer	5.92	1.97	
28	Charlie Whitehurst	0.18	0.05	
29	Kyle Orton	3.37	1.12	Sleeper
30	Teddy Bridgewater	2.51	0.63	
31	Robert Griffin III	2.31	1.16	
32	Colt McCoy	0.35	0.35	

DPS Rankings - RB

		l~		L (a) - ((-)
Rank	Player	DPS	DPS Adjusted	(S)leeper/(D)ump
1	DeMarco Murray	0.95	0.14	
2	Matt Forte	0.81	0.12	
3	Arian Foster	0.68	0.11	
4	Le'Veon Bell	-0.35	-0.05	
5	Ahmad Bradshaw	-2.92	-0.42	
6	Marshawn Lynch	1.91	0.32	
7	Giovani Bernard	-1.08	-0.18	
8	Justin Forsett	-1.94	-0.28	
9	Andre Ellington	0.72	0.12	
10	Lamar Miller	0.84	0.14	
11	Christopher Ivory	-3.55	-0.51	
12	Eddie Lacy	0.0	0.0	
13	Alfred Morris	-1.21	-0.17	
14	Trent Richardson	-4.63	-0.66	
15	Branden Oliver	-0.56	-0.11	
16	Shane Vereen	-0.53	-0.08	
17	Matt Asiata	-4.56	-0.65	
18	Jamaal Charles	8.71	1.74	
19	Darren Sproles	-2.87	-0.48	
20	Joique Bell	2.14	0.36	
21	LeSean McCoy	3.42	0.57	
22	Pierre Thomas	-2.3	-0.38	
23	Darren McFadden	0.3	0.05	
24	Isaiah Crowell	-0.32	-0.05	
25	Steven Jackson	-2.39	-0.34	
26	Bobby Rainey	-2.87	-0.48	
27	Jeremy Hill	-0.98	-0.16	
28	Roy Helu	-1.85	-0.26	
29	Benny Cunningham	-1.91	-0.32	
30	Khiry Robinson	-3.29	-0.55	
31	Chris Johnson	-2.2	-0.31	
32	Ronnie Hillman	6.62	1.66	Sleeper
33	Jerick McKinnon	5.04	0.72	
34	Reggie Bush	3.53	0.59	
35	Ben Tate	11.16	2.79	
36	Terrance West	-2.47	-0.49	
37	Zac Stacy	-2.67	-0.45	
38	Mark Ingram	2.14	0.71	
39	LeGarrette Blount	-2.19	-0.31	
40	Bishop Sankey	2.71	0.39	
41	Lorenzo Taliaferro	-1.92	-0.27	
42	Denard Robinson	3.64	0.52	
43	Bernard Pierce	0.97	0.19	
44	Stepfan Taylor	-2.21	-0.37	
45	James Starks	2.1	0.3	
46	Alfred Blue	-2.84	-0.41	
47	Jonathan Stewart	2.87	0.72	
48	Doug Martin	4.74	1.18	
49	Shonn Greene	-0.9	-0.18	
50	Darrel Young	-5.02	-0.72	
90	Darier roung	-0.02	-0.12	

DPS Rankings - WR

Rank	Player	DPS	DPS Adjusted	(S)leeper/(D)ump
1	Antonio Brown	-2.11	-0.3	
2	Jordy Nelson	1.48	0.21	
3	Demaryius Thomas	3.82	0.64	
4	Randall Cobb	-0.73	-0.1	
5	Steve Smith	-3.36	-0.48	
6	Julio Jones	0.74	0.11	
7	Dez Bryant	1.08	0.15	
8	Ty Hilton	0.0	0.0	
9	Golden Tate	0.64	0.09	
10	Kelvin Benjamin	-1.54	-0.22	
11	DeSean Jackson	-1.34	-0.19	
12	Terrance Williams	-1.2	-0.17	
13	Jeremy Maclin	0.47	0.08	
14	Mohamed Sanu	-1.97	-0.33	
15	Sammy Watkins	1.48	0.21	
16	Mike Wallace	0.81	0.14	
17	Alshon Jeffery	2.16	0.31	
18	Eddie Royal	-3.69	-0.53	
19	DeAndre Hopkins	-1.22	-0.17	
20	Brandon Marshall	2.73	0.39	
21	Malcom Floyd	-3.83	-0.55	
$\frac{21}{22}$	Emmanuel Sanders	2.33	0.39	
23	Pierre Garcon	0.24	0.03	
$\frac{23}{24}$	Julian Edelman	0.24	0.02	
$\frac{24}{25}$	Kendall Wright	-2.49	-0.36	
$\frac{25}{26}$	Torrey Smith	-0.66	-0.09	
20 27	Brian Quick	-2.03	-0.34	
28	Roddy White	1.93	0.32	
29	James Jones	-1.93	-0.32	
30	Brandon LaFell	-1.43	-0.32	
31	Andre Johnson	2.56		
$\frac{31}{32}$	Eric Decker	1.03	$0.37 \\ 0.17$	
		!		
33	Reggie Wayne	-1.56	-0.22	
34	Andre Holmes	-0.18	-0.03	
35	Michael Floyd	4.85	0.81	
36	Calvin Johnson	-1.46	-0.29	
37	Vincent Jackson	4.61	0.77	
38	Cordarrelle Patterson	-1.6	-0.23	
39	Allen Robinson	-0.61	-0.09	
40	A.J. Green	-0.08	-0.02	
41	Greg Jennings	-1.69	-0.24	
42	Brandin Cooks	1.17	0.19	
43	Marques Colston	1.49	0.25	
44	Andrew Hawkins	-1.74	-0.29	
45	Justin Hunter	-2.18	-0.31	
46	Mike Evans	1.41	0.28	
47	John Brown	-2.32	-0.39	
48	Miles Austin	-1.37	-0.23	
49	Doug Baldwin	4.12	0.69	
50	Keenan Allen	3.17	0.45	

DPS Rankings - TE

Rank	Player	DPS	DPS Adjusted	(S)leeper/(D)ump
1	Julius Thomas	1.51	0.25	
2	Greg Olsen	0.0	0.0	
3	Antonio Gates	0.0	0.0	
4	Martellus Bennett	-0.76	-0.11	
5	Rob Gronkowski	6.44	0.92	
6	Delanie Walker	-1.91	-0.27	
7	Dwayne Allen	-1.24	-0.18	
8	Jimmy Graham	1.59	0.27	
9	Travis Kelce	0.29	0.05	
10	Owen Daniels	-0.73	-0.1	
11	Niles Paul	-4.43	-0.63	
12	Zach Ertz	0.96	0.16	
13	Coby Fleener	-2.17	-0.31	
14	Jason Witten	0.4	0.06	
15	Jared Cook	0.0	0.0	
16	Heath Miller	0.0	0.0	
17	Jace Amaro	-1.41	-0.2	
18	Scott Chandler	0.0	0.0	
19	Clay Harbor	-0.81	-0.2	
20	Jordan Cameron	4.28	0.86	
21	Gavin Escobar	0.6	0.09	
22	Charles Clay	3.24	0.54	
23	Timothy Wright	0.0	0.0	
24	Josh Hill	-0.97	-0.16	
25	Andrew Quarless	-1.44	-0.21	
26	Jeff Cumberland	-4.05	-0.58	
27	Anthony Fasano	-1.94	-0.32	
28	Jermaine Gresham	2.49	0.42	
29	Cooper Helfet	-0.32	-0.08	
30	Eric Ebron	1.15	0.19	
31	Jacob Tamme	-2.05	-0.34	
32	Levine Toilolo	1.21	0.17	
33	Ladarius Green	4.95	0.82	
34	Jim Dray	-1.36	-0.23	
35	Jordan Reed	8.34	2.78	
36	John Carlson	0.16	0.03	
37	Austin Seferian-Jenkins	5.08	1.27	
38	Garrett Graham	1.24	0.21	
39	Mychal Rivera	2.06	0.34	
40	Brandon Pettigrew	0.44	0.06	
41	Benjamin Watson	1.94	0.32	
42	Ryan Griffin	0.2	0.03	