

Report – NPLW 2018
Comparative Analysis
10 September 2018

This report provides a comparison of NPLW coach qualifications, volume of training sessions, league table position and player registrations



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SECTION 1 – TRAINING ENVIRONMENT

1.1 OVERVIEW

The Training Environment Section of this report has been developed to assist Capital Football understand the structure and coaching resources invested in by the National Premier League for Women (NPLW) clubs and draw assumptions and learnings.

The goal was to use a ranking system to help understand the following questions;

- Is there a link between the qualification of the club coaches to the number of training sessions conducted by a club?
- Is there a link between the qualification of club coaches and “performance” using the league table as a guide?
- Is there a link between the number of training sessions delivered and “performance” using the league table as a guide?

We acknowledge that this approach does not consider the quality of fields, football equipment or sessions delivered by individual coaches.

We also acknowledge it does not consider the experience a coach may have, or the historic reputation of a club that will influence decisions by talented players as to who they will register with.

This comparative analysis seeks to sit beside the observations of the Capital Football Performance Department and Coaches Technical Committee as a supplementary tool. It does not presume to replace the logical or intuitive thinking of people experienced in football development.

1.2 DATA SOURCE, SCORING AND RANKING

Data Source

The coaching appointments and volume of training sessions were submitted to Capital Football by the NPLW clubs via a Jotform.

Coaching qualifications were validated against the Qualification Management System used by Football Federation Australia to manage all coaching courses and accreditation.

Scoring

We have adopted the following scoring mechanisms when considering coaches, training sessions and performance. More detail on each scoring system is included in the sub headings related to each field.

Coaches – a sliding scale of points starting at 8 points if the coach has a Professional Diploma down to -8 points if the coach does not have any qualifications.

Training sessions – an aggregate of the number of weekly training sessions across all age grades per club.

League Table – an average per team of the points accrued during the Premiership Series across all age grades. There has been no weighting applied for the higher age grade teams.

Ranking

Clubs have been ranked in each of the three categories by the score they received.

Where two or more clubs received the same score, their ranking is equal. The club with score below them did not then receive the next numerical ranking. That club received the proportional raking to their overall position against the other clubs. By way of example;

Club	Score	Rank
A	20	1
B	20	1
C	18	3
D	16	4
E	15	5
F	14	6
G	13	7
H	12	8

Clubs A and B are ranked equal 1st. As two clubs are ranked 1st, there is no 2nd placed club. Club C is therefore ranked 3rd.

Ranking Score

We sought to avoid any skewing that might occur from simply aggregating points across the three areas. This may have occurred given each category employed a slightly different scoring protocol.

As such, ranking points were applied using the following table

Ranking	Ranking points
1 st	8
2 nd	7
3 rd	6
4 th	5
5 th	4
6 th	3
7 th	2
8 th	1

Where clubs were equally ranked they were allocated the same points.

1.3 TRAINING ENVIRONMENT - SUMMARY TABLE

The following summary table captures the scores assigned to each club for;

- The qualifications of coaches appointed to their football programs
- The number of times a week their teams train
- The average points per team a club has accrued in the Premiership

Clubs are listed numerically considering the aggregate of their three Ranking Scores.

Use of the aggregate ranking scores was applied in an effort to avoid any skewing that may result from the various measures using different raw scoring protocols.

Club	Aggregate Ranking Score	Aggregate Score	Coach Qualifications			Training Volume			League Table		
			Score	Coach Quals	Ranking Score	Score	Training Vol	Ranking Score	Score	League Table	Ranking Score
Canberra United Academy	22	74	19	1	8	14	2	7	41	2	7
Belconnen United	20	61	1	3	6	13	3	6	47	1	8
Monaro Panthers	19	41	3	2	7	15	1	8	23	5	4
Woden Weston	13	48	-1	4	5	9	7	2	40	3	6
Canberra FC	13	44	-4	6	3	10	4	5	38	4	5
Gungahlin United	12	29	-3	5	4	10	4	5	22	6	3
Canberra Olympic	8	-9	-30	8	1	10	4	5	11	7	2
Tuggeranong United	4	10	-6	7	2	8	8	1	8	8	1

Note:

Canberra United Academy Coach Qualification and Training Volume results are skewed due to not aggregating points for the U13 age grade in which the club does not participate.

Tuggeranong United FC Coach Qualification and Training Volume results are skewed due to not aggregating points for the U17 age grade in which the club withdrew their team prior to the season commencing.

1.4 TRAINING ENVIRONMENT - COACHING QUALIFICATION

The following table captures the current qualifications of coaches engaged by NPLW clubs for the 2018 season.

Club	Position	Qualification	Current Category											Club Score			
			Advanced					Community				Expired	No Quals	Coach	Total		
National Premier Leagues Women and Girls - Coaching Qualifications Analysis			P	A	AP	B	BP	C	CP	GK	GT	ST	GR				
Canberra United Academy	1st Grade	A License		1													6
Canberra United Academy	Reserve Grade	B License				1											4
Canberra United Academy	U17	B License Pending Final Practical Assessment					1										3
Canberra United Academy	U15	A License		1													6
Canberra United Academy	U13																19
Monaro Panthers	1st Grade	B License				1											4
Monaro Panthers	Reserve Grade	B License				1											4
Monaro Panthers	U17	C Youth License						1									2
Monaro Panthers	U15	C Youth License Pending Final Practical Assessment							1								1
Monaro Panthers	U13	No Qualification													1		-8
Belconnen United	1st Grade	B License				1											4
Belconnen United	Reserve Grade	No Qualification													1		-8
Belconnen United	U17	C-Licence Part 1 Only							1								1
Belconnen United	U15	B License Pending Final Practical Assessment					1										3
Belconnen United	U13	C Youth License Pending Final Practical Assessment							1								1
Woden Weston	1st Grade	C License pre 2013 Expired 2015											1				-6
Woden Weston	Reserve Grade	C License Pending Final Practical Assessment							1								1
Woden Weston	U17	C-Licence Part 1 Only							1								1
Woden Weston	U15	C Youth License Pending Final Practical Assessment							1								1
Woden Weston	U13	C Youth License						1									2
Gungahlin United	1st Grade	C License Pending Final Practical Assessment							1								1
Gungahlin United	Reserve Grade	C License Pending Final Practical Assessment							1								1
Gungahlin United	U17	No Qualification													1		-8
Gungahlin United	U15	C Senior License						1									2
Gungahlin United	U13	C Youth License Pending Final Practical Assessment							1								1
Canberra FC	1st Grade	C License Pending Final Practical Assessment							1								1
Canberra FC	Reserve Grade	C License Pending Final Practical Assessment							1								1
Canberra FC	U17	C License Pending Final Practical Assessment							1								1
Canberra FC	U15	C Senior License Pending Final Practical Assessment							1								1
Canberra FC	U13	No Qualification													1		-8
Tuggeranong United	1st Grade	C Senior License						1									2
Tuggeranong United	Reserve Grade	No Qualification													1		-8
Tuggeranong United	U17																
Tuggeranong United	U15	C Senior License						1									2
Tuggeranong United	U13	C Youth License Pending Final Practical Assessment									1						-2
Canberra Olympic	1st Grade	C License pre 2013						1									2
Canberra Olympic	Reserve Grade	No Qualification														1	-8
Canberra Olympic	U17	No Qualification														1	-8
Canberra Olympic	U15	No Qualification														1	-8
Canberra Olympic	U13	No Qualification													1		-8

Legend

P = Professional Diploma
 A = A-Licence
 AP = A-Licence pending assessment
 B = B-Licence
 BP = B-Licence pending assessment
 C = C-Licence
 CP = C-Licence pending assessment
 GK = Goal Keeping Certificate
 GT = Game Training Certificate
 ST = Skill Training Certificate
 GR = Grassroots Certificate

Notes

Cub score uses the following table
 P = 8 points
 A = 6 points
 AP = 5 points
 B = 4 points
 BP = 3 points
 C = 2 points
 CP = 1 point
 GK = -2 points
 GT = -2 points
 ST = -2points
 GR = -4 points
 Expired = -6 points
 No Qual = -8 points

Note:

Canberra United Academy Coach Qualification results are skewed due to not aggregating points for the U13 age grade in which the club does not participate.

Tuggeranong United FC Coach Qualification results are skewed due to not aggregating points for the U17 age grade in which the club withdrew their team prior to the season commencing.

1.5 TRAINING ENVIRONMENT – VOLUME OF SESSIONS

The following table captures the number of times a week the age grades of each club trained.

Club	Sessions per week					Club Score
	1st Grade	Reserves	U17	U15	U13	
Monaro Panthers	3	3	3	3	3	15
Canberra United Academy	4	4	3	3	-	14
Belconnen United	3	2	2	3	3	13
Canberra FC	2	2	2	2	2	10
Canberra Olympic	2	2	2	2	2	10
Gungahlin United	2	2	2	2	2	10
Woden Weston	2	1	2	2	2	9
Tuggeranong United	2	2	-	2	2	8

Notes:

Each team that has 4 training sessions per week = 4 points

Each team that has 3 training sessions per week = 3 points

Each team that has 2 training sessions per week = 2 points

Each team that has 1 training sessions per week = 1 points

Canberra United Academy Training Volume results are skewed down due to not aggregating points for the U13 age grade in which the club does not participate.

Tuggeranong United FC Training Volume results are skewed down due to not aggregating points for the U17 age grade in which the club withdrew their team prior to the season commencing.

1.6 TRAINING ENVIRONMENT – LEAGUE TABLES

The following table captures the aggregate league table points for each club in all grades, and scores them considering an average of the points earned.

Club	2018 League Points					Average per team
	1st Grade	Reserve	U17	U15	U13	
Belconnen United	61	46	37	47	44	47
Canberra United Academy	46	50	30	36	-	41
Woden Weston	20	50	39	42	49	40
Canberra FC	44	35	31	53	25	38
Monaro Panthers	15	24	27	20	29	23
Gungahlin United	28	20	20	25	17	22
Canberra Olympic	31	10	0	10	4	11
Tuggeranong United	1	10	-	7	15	8

Notes:

Canberra United Academy and Tuggeranong United FC average points have been calculated by dividing the total points earned by 4 teams

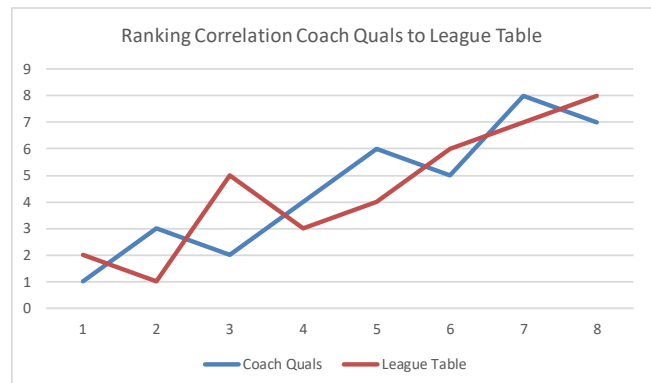
1.7 TRAINING ENVIRONMENT - KEY LEARNINGS

To measure the strength of the relationship between training environment factors we have employed *Pearson's Correlation Coefficient* which is used in statistics to measure the strength of the linear relationship between two variables.

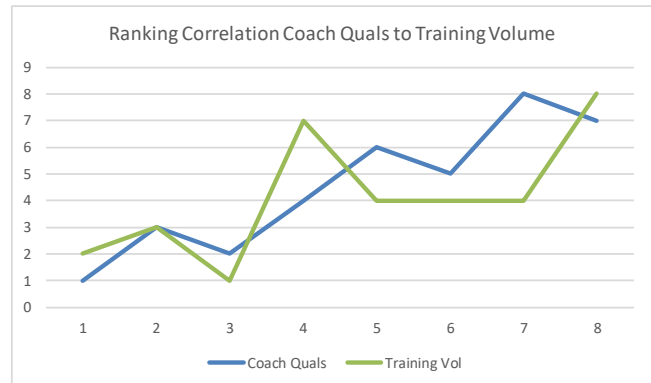
The following table indicates the relative strength of the relationship;

Value	Strength of relationship
1.0 to 0.5	Strong
0.3 to 0.5	Moderate
0.1 to 0.3	Weak
0.0 to 0.1	None

There is a strong positive correlation (.74) between the qualification of coaches appointed at a club and the aggregate league table points for the club (i.e. higher accredited coaches generally lead to a higher league table position).

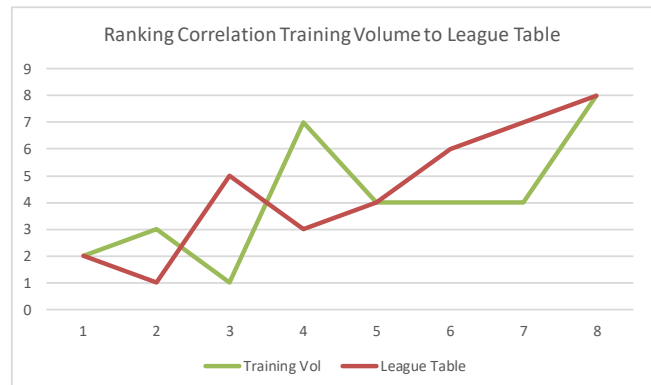


There is a strong positive correlation (.61) between coach qualification and the frequency of training sessions available to players at a club (i.e. generally a more qualified coach will create an environment with more frequent and regular training).



There is a moderate positive correlation (.41) between training frequency and average league table position.

The correlation is strongest when comparing the top and bottom placed teams.



SECTION 2 - PERFORMANCE

2.1 OVERVIEW

The Performance Section of this report has been developed to assist Capital Football draw assumptions from the 2017 and 2018 league tables relating to the performance of teams across the competition.

The goal is to analyse year on year league table data to make assumptions related to;

- Has the gap between the top and bottom placed teams reduced from 2017 to 2018?
- Do individual match results demonstrate a significant gap between the top and bottom placed team in each division?

We acknowledge that league table points alone may not be a holistic measure of performance, however they do provide an ability to quantify change between seasons and identify any significant differences in the standard of teams within a competition.

2.2 DATA SOURCE

League tables and match scores were exported from the Sports TG competition management system employed by Capital Football.

2.3 COMPETITIVENESS OF MATCHES

Generally, the league saw less lopsided matches.

The following table shows the percentage of total matches per age grade that had a goal difference of 5 or greater.

There were significant decreases in the number of lopsided matches in 1st Grade and U15 competitions. This was contrasted by an increase in lopsided matches in Reserve Grade despite the league table points gap between the 1st and 8th placed teams reducing from 2017.

Despite the decrease in the number of matches with a goal difference of 5 or more, the number of lop-sided matches remains very high.

	Matches with a goal difference of 5 or more		Variance
	2017	2018	
	% of total matches	% of total matches	
1st Grade	32%	20%	-12%
Reserve Grade	23%	35%	12%
U17	23%	20%	-3%
U15	36%	25%	-11%
U13	15%	18%	3%
League wide			-12%

2.4 LEAGUE TABLE ANALYSIS

The league table analysis considers the variance across divisions and teams from 2017 to 2018.

Of note;

- Generally, the gap in points between the 1st placed and 8th placed team reduced from the 2017 to 2018 season
- In particular, the reserve grade points gap between the 1st and 8th placed teams in reserve grade reduced 14 points (the equivalent of 5 wins)
- The greatest club points improvement from 2017 to 2018 was Monaro Panthers with an increased aggregate across all grades of 71 points (the equivalent of 23 wins)

Clubs	U13			U15			U17			Res			Firsts			Club Totals		
	2017	2018	Variance	2017	2018	Variance	2017	2018	Variance	2017	2018	Variance	2017	2018	Variance	2017	2018	Variance
Belconnen United	43	44	1	54	47	-7	34	37	3	41	46	5	58	61	3	230	235	5
Woden Weston	47	49	2	43	42	-1	32	39	7	38	50	12	36	20	-16	196	200	4
Canberra FC	33	25	-8	46	53	7	39	31	-8	40	35	-5	39	44	5	197	188	-9
Canberra United Academy				46	36	-10	49	30	-19	57	50	-7	33	46	13	185	162	-23
Monaro Panthers	1	29	28	31	20	-11	0	27	27	3	24	21	9	15	6	44	115	71
Gungahlin United	20	17	-3	20	25	5	13	20	7	37	20	-17	41	28	-13	131	110	-21
Canberra Olympic	24	4	-20	7	10	3	7	0	-7	7	10	3	1	31	30	46	55	9
Tuggeranong United	12	15	3	3	7	4	12	0	-12	19	10	-9	25	1	-24	71	33	-38
Variance of 1st to 8th	46	45	-1	51	46	-5	42	39	-3	54	40	-14	57	60	3			

Monaro Panthers did not field a U17 team in 2017
TUFC did not enter a U17s team in 2018

2.5 PERFORMANCE – KEY LEARNINGS

From a review of the data it is reasonable to suggest that;

- The gap in standard across the league has closed from 2017 to 2018 creating a closer competition in nearly all age grades.
- There has been a reduction in the difference between the league table points of the 1st and 8th placed teams from 2017 to 2018.
- Excluding Reserve Grade, league wide there has been a reduction in the number of lop-sided matches with goals differences of 5 or more.
- Despite the reduction in lop-sided matches and closing of the gap between the 1st and 8th placed teams on the league table, there remains work to do in growing the “competitiveness” of the league.
- Comparing data sets in the Reserve Grade competition reveals an inconsistency, with the gap between 1st and 8th place reducing more than any other age grade from 2017 to 2018, while the number of lop-sided results increased more than any other age grade from 2017 to 2018.

SECTION 3 - PARTICIPATION

3.1 OVERVIEW

The Participation Section of this report has been developed to assist Capital Football identify trends from the 2017 and 2018 player registrations.

Of particular interest in reviewing participation in the NPLW;

- Are there any registration trends visible from 2017 to 2018?
- Is there a large number of switching players, and if so are there any links between coach qualifications and switching players?
- Is there a correlation between average age and league table position?

3.2 DATA SOURCE

Registration data was collected from the MyFootballClub (**MFC**) database on which all players are required to register.

3.3 REGISTRATION BY DIVISION

The total number of registrations across the league remained steady from 2017 to 2018. There was a drop of 9 players in the U17 age grade. In addition, one club per season in 2017 and 2018 was unable to field a team in the U17 age grade.

To note, Monaro Panthers allocated all 25 “senior” players to 1st grade on MFC. As such we have assigned the oldest 13 players to 1st grade, the remaining 12 to Reserve grade for the purposes of the analysis.

NPL - Women Clubs	2017						2018						2017 to 2018 Variance					
	U13	U15	U17	Res	Firsts	Total	U13	U15	U17	Res	Firsts	Total	U13	U15	U17	Res	Firsts	Total
Belconnen United	17	14	16	9	18	74	17	15	16	8	21	77	0	1	0	-1	3	3
Canberra FC	19	19	14	20	12	84	15	21	13	18	17	84	-4	2	-1	-2	5	0
Canberra Olympic	17	17	17	14	17	82	18	12	13	12	16	71	1	-5	-4	-2	-1	-11
Canberra United Academy		15	9	16	17	57		15	15	15	17	62	0	0	6	-1	0	5
Gungahlin United	16	17	17	14	19	83	16	18	10	11	17	72	0	1	-7	-3	-2	-11
Monaro Panthers	14	16	0	7	14	51	15	15	14	12	13	69	1	-1	14	5	-1	18
Tuggeranong United	14	16	17	5	16	68	14	15	0	13	13	55	0	-1	-17	8	-3	-13
Woden Weston	13	18	15	14	15	75	17	21	15	16	17	86	4	3	0	2	2	11
Total	110	132	105	99	128	574	112	132	96	105	131	576	2	0	-9	6	3	2

Monaro Panthers did not field a U17 team in 2017
 TUFC did not enter a U17s team in 2018
 Monaro Panthers registered a combined 25 players across Reserve Grade and 1st Grade

3.4 REGISTRATION BY AGE

Youth team (U13 – U17) ages are fairly consistent and do not deviate much from the mean, especially when the Canberra United Academy are not considered within the analysis (as their players are significantly younger than other teams per division).

Predictably there is a greater spread of ages in the senior divisions. The re-introduction of a Reserve Grade appears to have achieved the aim of providing an opportunity for young players (see the youngest age column) while also allowing senior players not in the 1st team to remain at the club (see the oldest age column).

Clubs	U13			U15			U17			Reserve Grade			1st Grade		
	Youngest	Oldest	Average	Youngest	Oldest	Average	Youngest	Oldest	Average	Youngest	Oldest	Average	Youngest	Oldest	Average
Belconnen United	11.7	13.5	12.6	13.8	15.4	14.7	14.8	17.0	16.0	17.9	25.9	21.1	16.8	34.8	24.5
Canberra FC	11.8	13.9	13.2	14.5	15.5	14.9	15.9	17.8	16.8	16.6	23.1	19.7	18.2	37.3	23.6
Canberra Olympic	11.0	13.5	12.3	13.7	15.4	14.3	15.5	16.6	16.2	17.2	28.9	20.3	15.1	27.2	21.8
Canberra United Academy				12.3	13.6	13.0	13.0	14.5	13.9	13.6	16.5	15.2	15.1	17.9	16.6
Gungahlin United	11.3	13.5	12.4	13.4	15.5	14.3	16.2	17.5	16.6	16.1	30.6	21.3	18.1	33.9	23.5
Monaro Panthers	11.3	13.4	12.9	13.6	15.4	14.1	15.3	17.0	16.2	17.2	18.9	18.1	18.9	26.0	20.7
Tuggeranong United	11.2	13.4	12.3	13.7	16.1	14.6	0.0	0.0	0.0	16.1	24.7	18.3	17.8	23.5	20.2
Woden Weston	12.3	13.5	13.0	13.7	15.5	14.6	15.7	17.3	16.1	17.7	40.7	24.8	18.8	37.3	24.9
League Result			12.7			14.3			16.0			19.9			22.0

3.5 SWITCHING PLAYERS

The rate of players switching from a club at the conclusion of the 2017 season was highest in the senior age grades.

As a league total, 9% of players switched from their club at the conclusion of the 2017 season, with nearly half of those from 1st Grade teams. That figure is less than their male counterparts, who had a league wide switching rate of 13.5% of players more evenly spread across all age grades.

Clubs	U13	U15	U17	Res	Firsts	Total
Belconnen United		1	1			2
Canberra FC	1	1	1	1	1	5
Canberra Olympic			2	2	5	9
Canberra United Academy					4	4
Gungahlin United	2		2	6	7	17
Monaro Panthers		3			1	4
Tuggeranong United		2		1	3	6
Woden Weston		3		3	1	7
League Totals	3	10	6	13	22	54
Average per club	0.4	1.3	0.8	1.6	2.8	6.8

Note: data reflects when players switch out of that club/age group from 2017 to 2018

3.6 PARTICIPATION – KEY LEARNINGS

Registrations and switching players;

- Total registrations remained steady from 2017 to 2018.
- The U17 age grade saw the highest decrease (9 players across all teams combined). It is also noted that Monaro Panthers and TUFC did not field U17 teams in 2017 and 2018 respectively.
- There was a relatively low occurrence of players switching out of NPLW clubs, especially in the youth age grades

Correlation between squad size and aggregate club points;

- There is a strong positive correlation (0.83) between the total players registered at a club and its aggregate premiership points across all age grades (meaning that clubs with the higher total player registration were more likely to accrue a higher number of premiership points across all age grades)

Correlation between average age and league table position;

- There is a strong positive correlation between the teams with the highest player average age of a team and their position on the league table for U13 (0.71), U15 (.60) and 1st Grade (0.61) (meaning that teams with older players generally held higher league table positions).
- There is a moderate positive correlation between the highest average age of a team and their position on the league table for Reserve Grade (0.47)
- There is a strong negative correlation between the highest average age of a team and their position on the league table for U17 (-0.57) (meaning that teams with older players generally held lower league table positions).

Correlation between switching players and Coach qualifications

- There is a strong positive correlation (0.69) between teams with the highest ranking of coach qualification having the least number of switching players

