

The following supplement accompanies the article

Climate variability regulates population dynamics of a threatened freshwater fish

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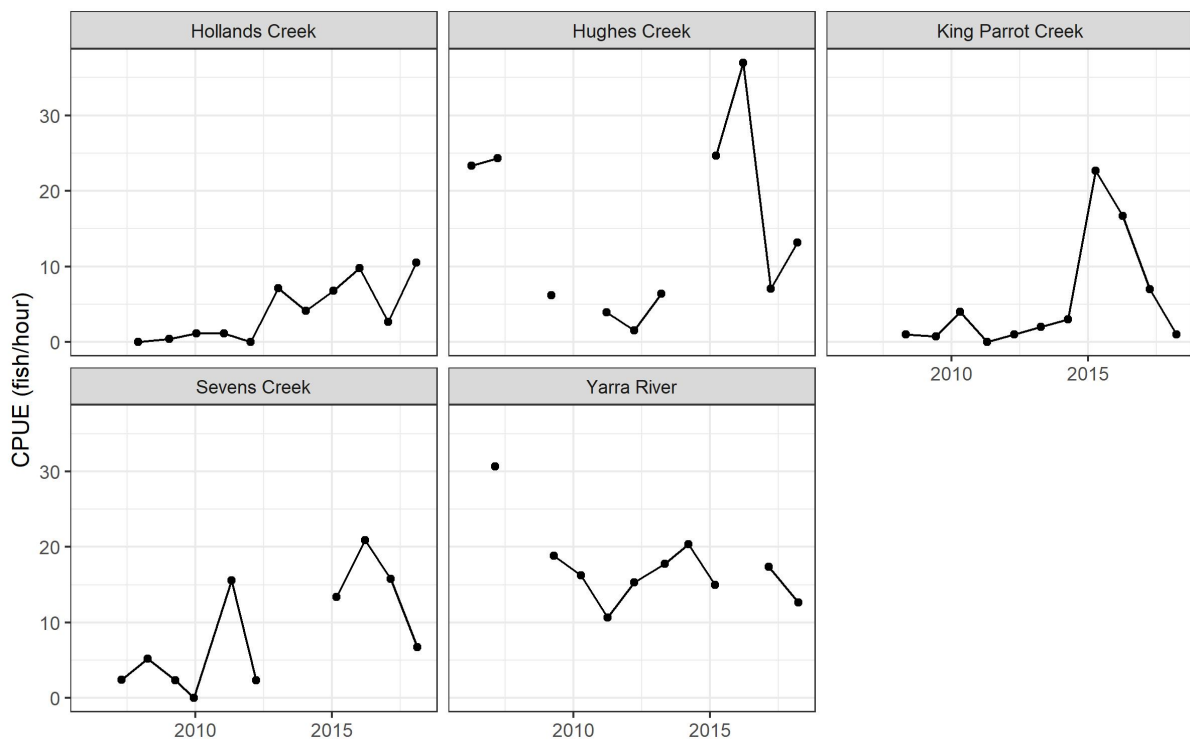


Fig. S1. Figure showing raw CPUE estimates for each river across time

Table S1. DIC values from the population models

Model	DIC
No flow variables	8296.7
Low flow	8304
Median flow	8311
High flow	8295.8

Table S2. Quantile regression estimates for Macquarie perch (mm)

River	year	20%	50%	80%
Hollands Creek	2009	333.8±55.2	367.2±52.2	421.3±78.1
	2010	209.4±17.9	237.4±35	356.4±44.7
	2011	149±20.5	164.6±21.1	186.9±29
	2013	138.8±10.3	294.6±10.9	338.1±21.7
	2014	122±7.3	140.6±11.9	330.1±37.3
	2015	125.9±6.7	142.6±11.2	236.2±26.1
	2016	119.4±6.1	132.6±6.7	190.4±10.9
	2017	140±13.3	187.9±27.5	240.2±29.6
	2018	134.1±6.8	158.7±8.8	280.2±12
Hughes Creek	2006	251.8±10	297.3±15.4	335.9±15.5
	2007	263.8±6.4	313.3±9.8	372.8±6.3
	2009	247±19.3	370.1±7.5	386.1±8.9
	2011	178.5±12.3	259.4±27	347.8±25.1
	2012	232.3±12	245.4±16.9	315±54.7
	2013	279±9.1	366.1±15.7	396.6±7.5
	2015	145.6±2.6	163.2±5.7	308.6±14.2
	2016	143±3	175.9±8.5	221.9±6.8
	2017	189.3±8	214.7±9.8	247.3±11
2018	152.8±4.5	229.3±12.8	279.5±9.3	
King Parrot Creek	2010	193.4±32.5	238.6±20.1	277.1±28.8
	2011	144.7±51.5	182.6±51	228.1±72.6
	2012	215.7±11.7	230±18.1	299.6±59.2
	2013	254.2±13.5	264.7±15.1	282.9±21.9
	2014	145.7±20.2	231.7±59	313.5±21.5
	2015	134.8±4.1	147.4±5.3	209±9.9
	2016	133.6±3.6	143.1±4.4	193.8±8.5
	2017	138.8±2.9	148.9±4.5	167.3±6.4
	2018	217.9±32.7	276.5±22.2	312.1±15.6
Seven Creeks	2007	285.4±8.1	306.3±8.2	353.1±11.9
	2008	298±12.9	322.9±7.3	355±9.1
	2009	202.2±11.5	322.6±18.3	355.4±10.6
	2011	143.1±3.3	158.1±6.1	289.5±16.7
	2012	209.4±5.5	257.9±14.2	356.6±10
	2015	163.4±3.2	189±4.1	331.2±8
	2016	119.6±2.1	144.7±4.6	253.3±9.6
	2017	137.4±3	176.4±3.2	207.3±5.3
	2018	195.5±4.1	235.7±4.4	259.5±5.3
Yarra River	2007	157.8±9.2	263.4±6.7	322.3±10.2

2009	194±9.9	297±9.1	329.6±7.8
2010	192.9±10.1	290.5±13.8	319.2±7.5
2011	196.6±16.7	330.7±16.4	358.4±10.4
2012	178.3±8.5	294.6±21.1	341±8.6
2013	240.2±9	280.3±8.7	328.1±9.8
2014	213.5±16	279.1±12.5	339.8±10.5
2015	195.6±19.6	264.4±11.7	324.9±10.9
2017	147.8±7.6	186.1±10.4	247±13.3
2018	182.9±9.2	232.6±9.5	272.9±16

(a)

	Yarra	King Parrot	Hughes	Seven	Hollands
Yarra	1	0.7710	0.7222	0.7354	0.7401
King Parrot	63	1	0.7995	0.8651	0.8948
Hughes	83	19	1	0.9504	0.8948
Sevens	102	45	32	1	0.94015
Hollands	141	110	77	45	1

(b)

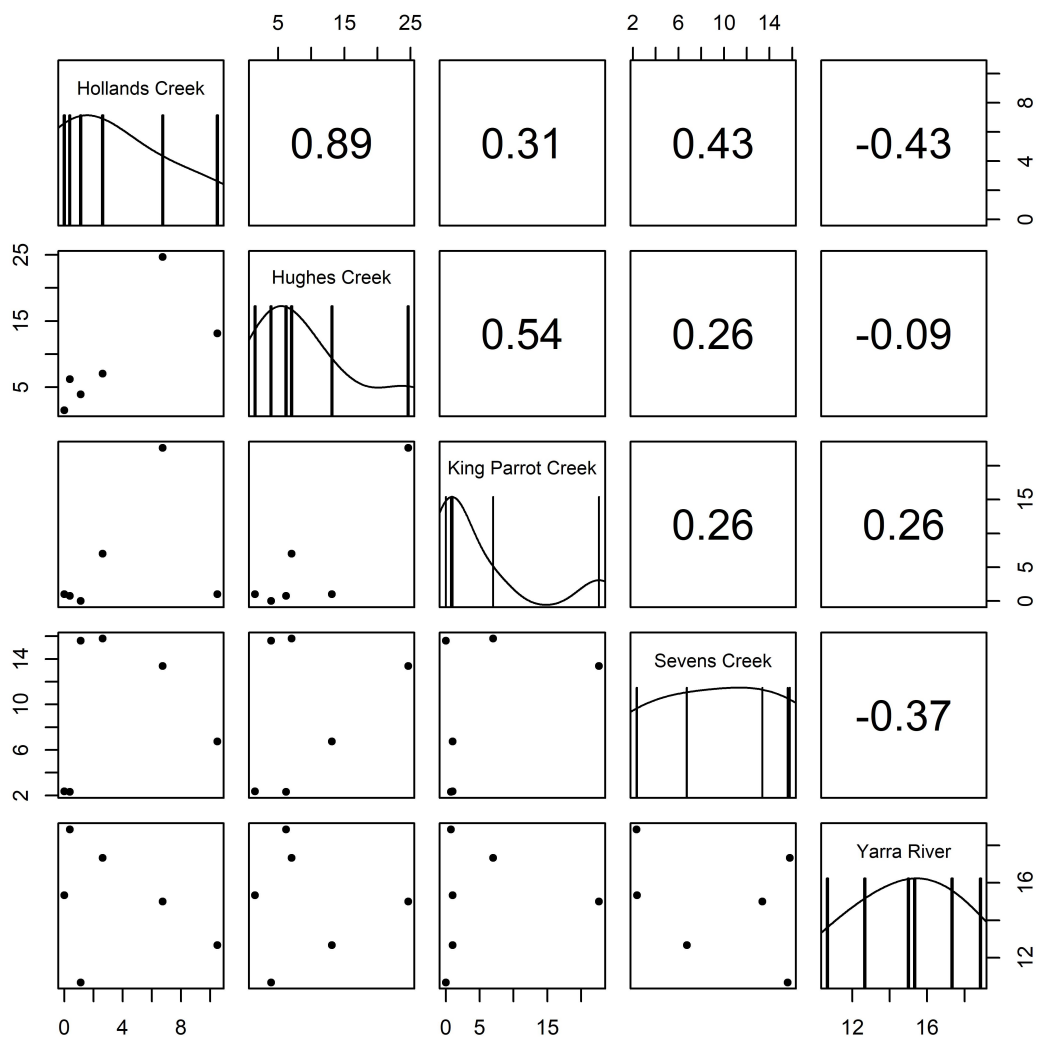


Fig. S2. Spearman correlations between (a) mean daily discharge (ML day^{-1} ; upper triangle) with distance matrix (kms; lower triangle); and (b) CPUE (fish/hr) between each river system (with lower triangle showing the scatterplot, and the diagonal panels show the distribution of CPUE in that river)