ADDENDUM TO:
Results on the Development of Candidate Management Procedures for the Canadian Pollock in the in the Western Component (4Xopqrs+5Zc) for the May 2011 Meeting

Rebecca A Rademeyer and Doug S Butterworth
May 2011

The following further information is provided in this Addendum.

Tables Add1 to Add4b add results for biomass in 2021 relative to the 1982-2010 average to the corresponding main text Tables D1 to D4b.

Figs Add1a-b compare future catch allocations under the five CMPs for the six scenarios for future survey results provided earlier by Heath Stone.

Fig. Add2 provides "shade" probability interval plots for future catch allocations and exploitable biomasses (in relative terms) separately for each OM (both RS members and other robustness tests). Fig. Add3 does the same in terms of "worm" plots of individual trajectories.

Figs Add4 and Add5 are extensions of Figs D4 and D5 of the main text to include comparison plots also for the exploitable biomass in 2021 relative to the 1982-2010 average.

Table Add1: Projections results (median and 95% PI in parenthesis) for a series of performance statistics for different CMPs under the RS. [Note that the new first row relates to the target used for tuning the different variants.]

		C=0		CMPR-		CMPR		CMPR+		CMPR_low		CMPR_high	
$B^{4-8}_{(av2016\text{-}2031)}/B^{4-8}_{2000}$		3.25	(1.25; 6.08)	1.61	(0.37; 4.39)	1.39	(0.26; 4.14)	1.32	(0.29; 3.99)	0.99	(0.15; 3.44)	2.12	(0.49; 4.87)
P_{2021}/P_{target}	B^{4-8}	0.79	(0.24; 1.58)	0.38	(0.03; 1.22)	0.30	(0.03; 1.15)	0.26	(0.03; 1.01)	0.18	(0.02; 0.92)	0.56	(0.06; 1.36)
	B^{sp}	1.45	(0.55; 2.75)	0.44	(0.03; 1.69)	0.31	(0.03; 1.47)	0.27	(0.03; 1.38)	0.18	(0.02; 1.13)	0.72	(0.09; 1.86)
P_{2016}/P_{2000}	B^{4-8}	2.86	(1.13; 5.70)	1.66	(0.19; 4.12)	1.28	(0.08; 3.87)	0.97	(0.06; 3.29)	0.88	(0.05; 3.23)	1.88	(0.22; 4.48)
	B^{sp}	4.08	(1.53; 8.55)	1.95	(0.23; 5.27)	1.51	(0.09; 4.67)	1.12	(0.07; 4.14)	1.01	(0.06; 4.10)	2.25	(0.25; 6.01)
P_{2021}/P_{2000}	B^{4-8}	3.11	(1.03; 6.76)	1.48	(0.13; 5.05)	1.15	(0.11; 4.94)	1.02	(0.14; 4.30)	0.70	(0.09; 3.84)	2.20	(0.28; 5.74)
	B^{sp}	7.68	(2.15; 14.30)	1.95	(0.14; 8.88)	1.45	(0.14; 7.83)	1.31	(0.17; 7.36)	0.87	(0.12; 5.87)	3.41	(0.49; 9.67)
P_{2031}/P_{2000}	B^{4-8}	3.10	(0.91; 7.07)	1.34	(0.14; 5.04)	1.36	(0.11; 4.96)	1.45	(0.13; 5.13)	0.94	(0.07; 4.78)	1.85	(0.18; 5.68)
	B^{sp}	7.84	(2.05; 16.17)	1.87	(0.16; 8.37)	1.83	(0.13; 8.05)	1.96	(0.16; 8.31)	1.22	(0.10; 7.31)	2.62	(0.23; 10.17)
$P_{2021}/av(P_{1982\text{-}2010})$	B^{4-8}	1.15	(0.37; 2.44)	0.57	(0.04; 1.81)	0.44	(0.04; 1.77)	0.38	(0.05; 1.52)	0.26	(0.03; 1.37)	0.82	(0.10; 2.06)
	B^{sp}	2.29	(0.79; 4.38)	0.65	(0.04; 2.69)	0.47	(0.04; 2.35)	0.42	(0.05; 2.20)	0.28	(0.04; 1.80)	1.09	(0.15; 2.96)
$Prob<P_{2000}$	B^{4-8}	0.05	(0.00; 0.43)	0.29	(0.00; 0.95)	0.38	(0.00; 1.00)	0.43	(0.00; 1.00)	0.57	(0.00; 1.00)	0.14	(0.00; 0.95)
	B^{sp}	0.00	(0.00; 0.14)	0.24	(0.00; 0.81)	0.29	(0.00; 0.91)	0.33	(0.00; 0.90)	0.43	(0.00; 1.00)	0.10	(0.00; 0.71)
$Prob<1.5P_{2000}$	B^{4-8}	0.14	(0.00; 0.81)	0.52	(0.10; 1.00)	0.62	(0.05; 1.00)	0.62	(0.05; 1.00)	0.76	(0.14; 1.00)	0.33	(0.00; 1.00)
	B^{sp}	0.10	(0.00; 0.29)	0.38	(0.05; 0.95)	0.48	(0.00; 1.00)	0.48	(0.00; 1.00)	0.62	(0.05; 1.00)	0.24	(0.00; 0.95)
$Prob<2.0P_{2000}$	B^{4-8}	0.24	(0.00; 1.00)	0.69	(0.24; 1.00)	0.76	(0.24; 1.00)	0.81	(0.24; 1.00)	0.90	(0.33; 1.00)	0.52	(0.00; 1.00)
	B^{sp}	0.14	(0.00; 0.48)	0.52	(0.14; 1.00)	0.62	(0.10; 1.00)	0.62	(0.10; 1.00)	0.76	(0.19; 1.00)	0.38	(0.00; 1.00)
C_{2011}		6000	(6000; 6000)	6000	(6000; 6000)	6000	(6000; 6000)	6000	(6000; 6000)	6000	(6000; 6000)	6000	(6000; 6000)
C_{2012}		0	(0; 0)	4800	(4009; 7200)	5655	(4273; 7200)	6682	(4800; 7200)	6431	(4670; 7200)	4800	(4273; 4800)
C_{2013}		0	(0; 0)	3840	(0; 8460)	4991	(0; 8245)	6251	(3247; 8640)	6141	(1589; 8640)	3840	(0; 5760)
C_{2014}		0	(0; 0)	3589	(0; 10063)	5353	(0; 9734)	5851	(0; 10368)	6452	(0; 10368)	3072	(0; 6912)
C_{2015}		0	(0; 0)	3686	(0; 11222)	5220	(0; 11155)	4862	(0; 12442)	6188	(0; 11888)	2458	(0; 7645)
C_{2016}		0	(0; 0)	3545	(0; 12991)	4577	(0; 11975)	4144	(0; 12815)	5699	(0; 13061)	1966	(0; 7802)
C_{2021}		0	(0; 0)	3104	(0; 15404)	2867	(0; 11860)	2000	(0; 10396)	1637	(0; 10837)	2709	(0; 11011)
$C_{2011\text{-}2015}$		1200	(1200; 1200)	4439	(2063; 8394)	5470	(2153; 8345)	5951	(2865; 8930)	6200	(2757; 8772)	4034	(2087; 6181)
$C_{2016\text{-}2020}$		0	(0; 0)	3428	(0; 11879)	3736	(0; 10477)	2951	(0; 10038)	3661	(100; 10378)	2199	(0; 8959)
$C_{2011\text{-}2020}$		600	(600; 600)	3940	(1411; 9758)	4468	(1595; 8731)	4276	(1740; 8730)	4878	(1825; 8997)	3113	(1340; 7116)
$C_{2021\text{-}2030}$		0	(0; 0)	4120	(50; 12369)	3405	(135; 11612)	2982	(213; 10965)	2643	(300; 10301)	4345	(50; 11930)
$AAV_{2012\text{-}2020}$		14.3	(14.3; 14.3)	23.5	(19.3; 32.2)	22.8	(14.1; 31.5)	23.4	(14.2; 34.0)	22.8	(13.0; 36.8)	23.2	(20.2; 29.8)
$AAV_{2013\text{-}2020}$		11.1	(11.1; 11.1)	21.3	(16.7; 31.0)	20.6	(10.9; 30.2)	21.2	(11.1; 33.0)	20.5	(9.6; 36.1)	21.0	(17.7; 28.4)
$AAV_{2021\text{-}2030}$		0.0	(0.0; 0.0)	21.5	(16.5; 29.3)	20.5	(12.5; 28.6)	20.5	(12.5; 29.3)	22.0	(11.7; 38.1)	19.9	(15.0; 26.6)

Table Add2: Projections results (median and 95% PI in parenthesis) for a series of performance statistics for **CMPR** for each OM in the RS.

Statistic		OM1	OM2	OM3	OM8	OM13	OM14
$B^{4-8}_{(av2016-2031)}/B^{4-8}_{2000}$		1.62 (0.82; 2.82)	1.66 (0.26; 6.05)	1.87 (0.87; 2.62)	1.21 (0.49; 1.75)	0.69 (0.13; 2.09)	1.25 (0.22; 4.15)
P_{2021}/P_{target}	B^{4-8}	0.33 (0.02; 0.90)	0.40 (0.03; 1.80)	0.29 (0.03; 0.67)	0.42 (0.09; 0.89)	0.12 (0.02; 0.60)	0.21 (0.03; 0.93)
	B^{sp}	0.35 (0.02; 1.23)	0.53 (0.06; 2.48)	0.27 (0.02; 0.69)	0.40 (0.08; 0.85)	0.15 (0.02; 0.69)	0.26 (0.03; 1.06)
P_{2016}/P_{2000}	B^{4-8}	1.50 (0.09; 3.36)	1.62 (0.08; 5.35)	1.98 (1.05; 3.10)	1.23 (0.32; 2.22)	0.54 (0.05; 2.37)	0.86 (0.07; 2.75)
	B^{sp}	1.70 (0.11; 4.26)	1.78 (0.10; 6.75)	2.66 (1.32; 4.43)	1.39 (0.38; 2.52)	0.64 (0.05; 3.13)	0.98 (0.08; 3.50)
P_{2021}/P_{2000}	B^{4-8}	1.44 (0.10; 3.91)	1.69 (0.14; 7.71)	1.22 (0.11; 2.86)	1.15 (0.24; 2.42)	0.53 (0.10; 2.61)	0.91 (0.13; 4.02)
	B^{sp}	1.84 (0.13; 6.54)	2.76 (0.31; 12.89)	1.41 (0.13; 3.59)	1.32 (0.27; 2.84)	0.77 (0.13; 3.68)	1.37 (0.16; 5.66)
P_{2031}/P_{2000}	B^{4-8}	1.70 (0.12; 4.50)	0.73 (0.06; 6.96)	2.66 (0.76; 4.90)	0.90 (0.18; 2.80)	0.70 (0.07; 2.92)	1.57 (0.15; 5.29)
	B^{sp}	2.42 (0.13; 6.74)	1.09 (0.08; 9.76)	4.11 (0.84; 8.30)	1.07 (0.20; 3.24)	0.94 (0.09; 3.37)	2.27 (0.18; 9.50)
$P_{2021}/av(P_{1982-2010})$	B^{4-8}	0.51 (0.04; 1.38)	0.61 (0.05; 2.76)	0.42 (0.04; 0.97)	0.55 (0.11; 1.16)	0.19 (0.04; 0.92)	0.32 (0.05; 1.41)
	B^{sp}	0.55 (0.04; 1.95)	0.84 (0.09; 3.95)	0.41 (0.04; 1.04)	0.54 (0.11; 1.15)	0.23 (0.04; 1.10)	0.41 (0.05; 1.69)
Prob<P_{2000}	B^{4-8}	0.31 (0.05; 0.67)	0.38 (0.05; 1.00)	0.19 (0.00; 0.53)	0.48 (0.12; 0.93)	0.71 (0.10; 1.00)	0.50 (0.00; 1.00)
	B^{sp}	0.24 (0.00; 0.48)	0.31 (0.00; 0.98)	0.14 (0.00; 0.43)	0.38 (0.05; 0.83)	0.52 (0.05; 0.95)	0.33 (0.00; 0.93)
Prob<1.5P_{2000}	B^{4-8}	0.52 (0.17; 0.91)	0.55 (0.07; 1.00)	0.29 (0.00; 0.64)	0.76 (0.36; 1.00)	0.90 (0.26; 1.00)	0.71 (0.00; 1.00)
	B^{sp}	0.43 (0.10; 0.83)	0.43 (0.05; 1.00)	0.24 (0.00; 0.57)	0.62 (0.29; 1.00)	0.71 (0.17; 1.00)	0.52 (0.00; 1.00)
Prob<2.0P_{2000}	B^{4-8}	0.67 (0.36; 1.00)	0.67 (0.14; 1.00)	0.50 (0.14; 0.81)	0.95 (0.69; 1.00)	1.00 (0.57; 1.00)	0.86 (0.19; 1.00)
	B^{sp}	0.52 (0.21; 0.91)	0.52 (0.05; 1.00)	0.33 (0.02; 0.67)	0.81 (0.57; 1.00)	0.90 (0.31; 1.00)	0.67 (0.00; 1.00)
C_{2011}		6000 (6000; 6000)	6000 (6000; 6000)	6000 (6000; 6000)	6000 (6000; 6000)	6000 (6000; 6000)	6000 (6000; 6000)
C_{2012}		5660 (4343; 7080)	4810 (4069; 6949)	6532 (4800; 7200)	5211 (4335; 6804)	5625 (4315; 7129)	5681 (4313; 7105)
C_{2013}		4750 (2772; 7143)	3664 (0; 7357)	7040 (4345; 8610)	4248 (2731; 6500)	4742 (0; 7549)	4722 (1252; 7345)
C_{2014}		5632 (1750; 8045)	3281 (0; 8828)	8401 (5213; 10332)	4602 (1691; 7152)	4689 (0; 8995)	4935 (0; 8625)
C_{2015}		5041 (238; 8765)	2939 (0; 9280)	9059 (5845; 11989)	4368 (500; 7654)	3659 (0; 9373)	4306 (0; 9189)
C_{2016}		4597 (0; 10166)	2240 (0; 10428)	9391 (6173; 13664)	3781 (857; 8640)	2134 (0; 9810)	3117 (0; 9718)
C_{2021}		3546 (0; 11725)	3000 (0; 15468)	5142 (0; 12092)	3906 (0; 8754)	333 (0; 7341)	1500 (0; 9056)
$C_{2011-2015}$		5503 (3213; 7061)	4267 (2020; 7551)	7389 (5322; 8742)	4914 (3209; 6627)	4992 (2160; 7554)	5119 (2390; 7320)
$C_{2016-2020}$		4070 (100; 8771)	2404 (0; 10986)	7772 (3970; 11195)	4151 (589; 7694)	1195 (0; 7168)	2328 (0; 8073)
$C_{2011-2020}$		4532 (2103; 7682)	3415 (1260; 8859)	7502 (5726; 9369)	4430 (2080; 6699)	3089 (1585; 6666)	3492 (1641; 7498)
$C_{2021-2030}$		4174 (638; 9505)	4764 (240; 14671)	2885 (750; 8255)	3832 (525; 7550)	1432 (24; 7437)	2678 (50; 11989)
$AAV_{2012-2020}$		22.7 (13.6; 31.5)	24.2 (13.7; 34.9)	18.8 (12.8; 30.4)	24.0 (14.2; 31.6)	24.0 (14.5; 32.4)	24.0 (13.3; 32.7)
$AAV_{2013-2020}$		20.4 (10.4; 30.2)	22.1 (10.4; 34.0)	16.1 (9.5; 29.0)	21.9 (11.0; 30.4)	21.9 (11.3; 31.2)	21.9 (10.1; 31.6)
$AAV_{2021-2030}$		20.5 (11.2; 28.6)	20.1 (5.5; 31.1)	20.7 (12.0; 30.5)	20.8 (8.6; 30.1)	21.0 (1.2; 30.9)	20.0 (2.5; 31.6)

Table Add3a: Projections results (median and 95% PI in parenthesis) for a series of performance statistics for **CMPR** for the robustness tests.

		OM4		OM5		OM6		OM7		OM9		OM10	
$B^{4-8}_{(av2016-2031)}/B^{4-8}_{2000}$		0.80	(0.22; 3.08)	2.09	(1.36; 3.37)	1.56	(0.61; 2.87)	1.47	(0.83; 2.46)	1.59	(0.79; 2.58)	1.95	(0.84; 3.09)
P_{2021}/P_{target}	B^{4-8}	0.17	(0.01; 0.83)	0.41	(0.06; 0.94)	0.33	(0.05; 0.93)	0.37	(0.03; 0.91)	0.41	(0.06; 0.90)	0.75	(0.14; 1.46)
	B^{sp}	0.17	(0.01; 1.06)	0.43	(0.06; 1.53)	0.35	(0.05; 1.16)	0.37	(0.03; 0.98)	0.44	(0.05; 1.24)	0.89	(0.13; 1.95)
P_{2016}/P_{2000}	B^{4-8}	1.90	(0.18; 4.66)	1.14	(0.08; 3.51)	1.61	(0.25; 3.46)	1.41	(0.20; 2.76)	1.83	(0.45; 3.45)	2.33	(0.99; 3.77)
	B^{sp}	2.26	(0.25; 6.09)	1.35	(0.09; 4.69)	1.82	(0.28; 4.25)	1.60	(0.21; 3.16)	2.13	(0.56; 4.49)	2.81	(1.22; 4.87)
P_{2021}/P_{2000}	B^{4-8}	0.72	(0.05; 3.61)	1.79	(0.25; 4.08)	1.42	(0.24; 4.03)	1.40	(0.12; 3.47)	1.55	(0.21; 3.44)	2.03	(0.37; 3.96)
	B^{sp}	0.91	(0.05; 5.64)	2.28	(0.29; 8.16)	1.85	(0.29; 6.15)	1.68	(0.13; 4.52)	2.02	(0.24; 5.70)	2.98	(0.42; 6.50)
P_{2031}/P_{2000}	B^{4-8}	0.43	(0.04; 4.41)	2.67	(0.59; 5.00)	1.46	(0.12; 4.75)	1.31	(0.10; 4.03)	1.81	(0.14; 4.59)	1.57	(0.18; 3.97)
	B^{sp}	0.55	(0.05; 5.39)	4.65	(0.74; 8.42)	2.16	(0.14; 7.01)	1.54	(0.11; 4.60)	2.39	(0.17; 6.88)	2.16	(0.20; 5.57)
$P_{2021}/av(P_{1982-2010})$	B^{4-8}	0.24	(0.02; 1.22)	0.63	(0.09; 1.44)	0.50	(0.08; 1.43)	0.53	(0.05; 1.31)	0.59	(0.08; 1.29)	0.97	(0.18; 1.88)
	B^{sp}	0.26	(0.02; 1.61)	0.68	(0.09; 2.43)	0.55	(0.09; 1.84)	0.54	(0.04; 1.46)	0.65	(0.08; 1.84)	1.21	(0.17; 2.64)
$Prob<P_{2000}$	B^{4-8}	0.57	(0.00; 0.93)	0.19	(0.00; 0.41)	0.33	(0.00; 0.79)	0.33	(0.02; 0.71)	0.24	(0.00; 0.62)	0.14	(0.00; 0.62)
	B^{sp}	0.48	(0.00; 0.81)	0.14	(0.00; 0.31)	0.24	(0.00; 0.62)	0.24	(0.00; 0.64)	0.19	(0.00; 0.48)	0.05	(0.00; 0.43)
$Prob<1.5P_{2000}$	B^{4-8}	0.74	(0.10; 1.00)	0.33	(0.05; 0.64)	0.57	(0.21; 0.95)	0.57	(0.29; 0.95)	0.52	(0.14; 0.86)	0.38	(0.05; 0.83)
	B^{sp}	0.57	(0.00; 0.95)	0.24	(0.00; 0.48)	0.43	(0.10; 0.90)	0.48	(0.14; 0.88)	0.31	(0.00; 0.69)	0.24	(0.00; 0.67)
$Prob<2.0P_{2000}$	B^{4-8}	0.86	(0.19; 1.00)	0.52	(0.19; 0.79)	0.71	(0.40; 1.00)	0.76	(0.48; 1.00)	0.69	(0.33; 1.00)	0.57	(0.19; 1.00)
	B^{sp}	0.67	(0.00; 1.00)	0.38	(0.12; 0.67)	0.57	(0.29; 1.00)	0.67	(0.33; 1.00)	0.52	(0.10; 0.95)	0.43	(0.07; 0.93)
C_{2011}		6000	(6000; 6000)	6000	(6000; 6000)	6000	(6000; 6000)	6000	(6000; 6000)	6000	(6000; 6000)	6000	(6000; 6000)
C_{2012}		6048	(4610; 7188)	6854	(3958; 7200)	4944	(4494; 7200)	5363	(4360; 6925)	5996	(4547; 7167)	5814	(4487; 7094)
C_{2013}		5954	(3300; 7652)	6955	(0; 8640)	4597	(2839; 7271)	4409	(2781; 6726)	5725	(3164; 7545)	5611	(3091; 7466)
C_{2014}		6845	(2975; 9094)	7836	(0; 10368)	4985	(1728; 8676)	4833	(1726; 7592)	6511	(2675; 8586)	6437	(2811; 8529)
C_{2015}		6924	(3383; 10367)	7426	(0; 12442)	5394	(1255; 9006)	4465	(0; 8223)	6277	(2642; 9836)	6577	(2953; 9753)
C_{2016}		7262	(3650; 10966)	6627	(0; 14851)	5258	(0; 10125)	3790	(0; 9134)	6402	(2028; 10893)	7210	(3306; 10975)
C_{2021}		5845	(0; 12324)	1000	(0; 14479)	4636	(0; 11143)	3585	(0; 9157)	6034	(0; 12255)	9211	(3212; 17836)
$C_{2011-2015}$		6299	(4197; 7766)	6878	(2398; 8930)	5302	(3295; 7385)	5067	(3226; 6778)	6114	(4022; 7490)	6057	(3940; 7411)
$C_{2016-2020}$		6864	(2924; 9774)	2635	(0; 10236)	4799	(705; 9069)	3707	(100; 7767)	5995	(1295; 9647)	8353	(4372; 12412)
$C_{2011-2020}$		6504	(4379; 8266)	4886	(2151; 8724)	4920	(2069; 8010)	4457	(1924; 6826)	6007	(3266; 8308)	7160	(4484; 9597)
$C_{2021-2030}$		4205	(955; 8977)	2982	(1050; 10741)	4096	(915; 9097)	3816	(591; 7486)	4946	(619; 9891)	9482	(1572; 14755)
$AAV_{2012-2020}$		22.7	(13.6; 31.5)	25.4	(17.2; 33.9)	22.7	(13.2; 30.9)	23.2	(13.4; 33.1)	19.3	(11.7; 27.3)	18.0	(12.0; 23.1)
$AAV_{2013-2020}$		20.4	(10.4; 30.2)	23.4	(14.4; 32.9)	20.5	(10.0; 29.6)	21.0	(10.1; 32.0)	16.7	(8.2; 25.5)	15.2	(8.5; 20.9)
$AAV_{2021-2030}$		20.5	(11.2; 28.6)	20.5	(14.5; 28.5)	20.5	(9.7; 28.0)	20.5	(7.6; 28.7)	20.6	(8.5; 29.1)	16.7	(9.0; 28.2)

Table Add3b: Projections results (median and 95% PI in parenthesis) for a series of performance statistics for **CMPR** for the robustness tests.

		OM12		OM15		OM16		OM17		OM18		Rob3	
$B^{4-8}_{(av2016-2031)}/B^{4-8}_{2000}$		1.64	(0.71; 2.89)	0.24	(0.03; 1.71)	1.07	(0.41; 1.60)	2.28	(0.89; 4.88)	3.88	(2.22; 5.58)	1.25	(0.19; 3.12)
P_{2021}/P_{target}	B^{4-8}	0.33	(0.05; 0.91)	0.08	(0.01; 0.64)	0.49	(0.06; 1.00)	0.46	(0.02; 1.76)	1.02	(0.42; 1.51)	0.24	(0.12; 0.42)
	B^{sp}	0.36	(0.05; 1.27)	0.08	(0.02; 0.59)	0.45	(0.05; 0.93)	0.53	(0.02; 2.37)	1.16	(0.41; 2.22)	0.28	(0.12; 0.48)
P_{2016}/P_{2000}	B^{4-8}	1.57	(0.11; 3.38)	0.31	(0.05; 1.38)	1.11	(0.39; 2.13)	2.70	(0.42; 7.12)	4.11	(2.21; 6.04)	0.31	(0.03; 0.81)
	B^{sp}	1.79	(0.12; 4.28)	0.36	(0.06; 1.60)	1.22	(0.44; 2.46)	3.13	(0.50; 9.04)	4.76	(2.63; 7.13)	0.37	(0.04; 1.08)
P_{2021}/P_{2000}	B^{4-8}	1.44	(0.21; 3.94)	0.22	(0.03; 1.72)	1.03	(0.13; 2.08)	1.99	(0.11; 7.61)	4.43	(1.82; 6.53)	1.04	(0.52; 1.81)
	B^{sp}	1.94	(0.24; 6.78)	0.28	(0.06; 1.96)	1.16	(0.14; 2.39)	2.84	(0.13; 12.63)	6.19	(2.19; 11.80)	1.47	(0.64; 2.56)
P_{2031}/P_{2000}	B^{4-8}	1.73	(0.15; 4.50)	0.19	(0.01; 1.60)	0.85	(0.13; 2.55)	1.62	(0.17; 8.03)	2.79	(0.21; 5.91)	2.19	(0.43; 5.10)
	B^{sp}	2.58	(0.18; 6.70)	0.24	(0.01; 1.90)	0.98	(0.15; 2.82)	2.54	(0.21; 11.01)	3.50	(0.24; 7.70)	3.65	(0.52; 7.35)
$P_{2021}/av(P_{1982-2010})$	B^{4-8}	0.51	(0.07; 1.39)	0.10	(0.02; 0.82)	0.58	(0.07; 1.16)	0.70	(0.04; 2.69)	1.56	(0.64; 2.30)	0.30	(0.03; 0.65)
	B^{sp}	0.58	(0.07; 2.02)	0.11	(0.02; 0.80)	0.55	(0.07; 1.14)	0.85	(0.04; 3.77)	1.85	(0.65; 3.52)	0.33	(0.03; 0.87)
$Prob<P_{2000}$	B^{4-8}	0.29	(0.05; 0.71)	0.95	(0.26; 1.00)	0.52	(0.14; 1.00)	0.24	(0.00; 0.67)	0.05	(0.00; 0.26)	0.48	(0.33; 0.74)
	B^{sp}	0.19	(0.00; 0.52)	0.90	(0.14; 1.00)	0.43	(0.10; 0.90)	0.19	(0.00; 0.57)	0.00	(0.00; 0.22)	0.33	(0.24; 0.52)
$Prob<1.5P_{2000}$	B^{4-8}	0.52	(0.17; 0.93)	1.00	(0.48; 1.00)	0.81	(0.45; 1.00)	0.38	(0.07; 0.81)	0.10	(0.05; 0.41)	0.62	(0.48; 1.00)
	B^{sp}	0.38	(0.10; 0.74)	1.00	(0.38; 1.00)	0.71	(0.38; 1.00)	0.29	(0.00; 0.69)	0.05	(0.00; 0.33)	0.48	(0.33; 0.81)
$Prob<2.0P_{2000}$	B^{4-8}	0.71	(0.31; 1.00)	1.00	(0.71; 1.00)	0.98	(0.76; 1.00)	0.52	(0.12; 0.95)	0.14	(0.05; 0.50)	0.71	(0.52; 1.00)
	B^{sp}	0.52	(0.19; 0.95)	1.00	(0.59; 1.00)	0.93	(0.64; 1.00)	0.38	(0.05; 0.81)	0.10	(0.05; 0.43)	0.57	(0.43; 1.00)
C_{2011}		6000	(6000; 6000)	6000	(6000; 6000)	6000	(6000; 6000)	6000	(6000; 6000)	6000	(6000; 6000)	6000	(6000; 6000)
C_{2012}		5582	(4324; 7060)	5175	(4211; 6954)	5083	(4307; 6750)	5762	(4404; 7160)	5677	(4368; 7056)	5553	(4254; 7056)
C_{2013}		4632	(2738; 7076)	4037	(0; 7499)	4127	(1269; 6464)	5409	(2900; 7843)	5243	(2907; 7225)	4365	(0; 6817)
C_{2014}		5396	(808; 7986)	3376	(0; 8565)	4571	(783; 7125)	6270	(2031; 9327)	6029	(2280; 8467)	3430	(0; 7466)
C_{2015}		4957	(0; 8653)	1895	(0; 8662)	4557	(500; 8064)	6388	(2021; 10399)	6546	(2668; 9563)	0	(0; 7393)
C_{2016}		4444	(0; 10141)	0	(0; 8024)	4370	(885; 8645)	6617	(1001; 12216)	7440	(3202; 10845)	0	(0; 5979)
C_{2021}		3658	(0; 11337)	0	(0; 6016)	4176	(0; 8623)	7768	(0; 19385)	11753	(6635; 19141)	1000	(0; 2979)
$C_{2011-2015}$		5409	(3191; 7027)	4166	(2057; 7378)	4956	(2696; 6716)	6032	(3595; 7980)	5942	(3743; 7426)	4188	(2105; 6664)
$C_{2016-2020}$		4189	(143; 8758)	376	(0; 5214)	4611	(1076; 7800)	7196	(927; 13477)	9376	(4765; 13286)	300	(0; 2275)
$C_{2011-2020}$		4512	(2005; 7653)	2411	(1210; 5624)	4466	(2106; 6849)	6747	(2493; 10462)	7668	(4219; 9681)	2219	(1387; 4239)
$C_{2021-2030}$		4181	(899; 9856)	84	(0; 5967)	4031	(98; 8002)	6313	(750; 16547)	12754	(5994; 16393)	3566	(1050; 6026)
$AAV_{2012-2020}$		22.4	(13.5; 31.6)	22.7	(16.9; 34.6)	22.3	(13.4; 32.3)	20.2	(12.8; 29.4)	18.5	(12.8; 24.7)	24.2	(17.2; 32.2)
$AAV_{2013-2020}$		20.1	(10.2; 30.4)	20.5	(14.1; 33.7)	20.0	(10.1; 31.2)	17.6	(9.5; 27.9)	15.8	(9.4; 22.7)	22.2	(14.4; 31.0)
$AAV_{2021-2030}$		20.5	(11.0; 28.8)	12.5	(0.0; 32.9)	20.3	(6.3; 28.7)	20.4	(3.9; 28.5)	15.8	(9.7; 24.8)	21.5	(12.5; 31.1)

*Table Add4a: Projections results (median and 95% PI in parenthesis) for a series of performance statistics for different CMPs for **OM15** (higher natural mortality and recruitment based on the last 5 reliable years).*

OM15		C=0		CMPR-		CMPR		CMPR+		CMPR_low		CMPR_high	
$B^{4-8}_{(av2016-2031)}/B^{4-8}_{2000}$		0.99	(0.12; 2.92)	0.29	(0.04; 2.02)	0.24	(0.03; 1.71)	0.24	(0.05; 1.63)	0.16	(0.03; 1.21)	0.38	(0.04; 2.37)
P_{2021}/P_{target}	B^{4-8}	0.35	(0.04; 1.21)	0.10	(0.01; 0.88)	0.08	(0.01; 0.64)	0.07	(0.01; 0.48)	0.06	(0.01; 0.35)	0.12	(0.01; 0.99)
	B^{sp}	0.38	(0.06; 1.23)	0.10	(0.01; 0.80)	0.08	(0.02; 0.59)	0.08	(0.02; 0.46)	0.06	(0.01; 0.33)	0.13	(0.02; 0.97)
P_{2016}/P_{2000}	B^{4-8}	0.90	(0.37; 2.39)	0.39	(0.03; 1.62)	0.31	(0.05; 1.38)	0.25	(0.04; 1.08)	0.23	(0.04; 1.01)	0.43	(0.06; 1.79)
	B^{sp}	1.13	(0.45; 3.06)	0.45	(0.03; 1.89)	0.36	(0.06; 1.60)	0.27	(0.05; 1.25)	0.26	(0.04; 1.16)	0.48	(0.07; 2.11)
P_{2021}/P_{2000}	B^{4-8}	0.95	(0.11; 3.28)	0.26	(0.04; 2.38)	0.22	(0.03; 1.72)	0.20	(0.04; 1.30)	0.15	(0.02; 0.96)	0.32	(0.04; 2.68)
	B^{sp}	1.27	(0.22; 4.10)	0.35	(0.05; 2.67)	0.28	(0.06; 1.96)	0.26	(0.07; 1.52)	0.19	(0.02; 1.11)	0.42	(0.06; 3.23)
P_{2031}/P_{2000}	B^{4-8}	0.88	(0.04; 3.51)	0.23	(0.02; 2.15)	0.19	(0.01; 1.60)	0.19	(0.01; 1.83)	0.09	(0.01; 1.28)	0.36	(0.01; 2.37)
	B^{sp}	1.26	(0.06; 4.10)	0.29	(0.02; 2.80)	0.24	(0.01; 1.90)	0.22	(0.02; 2.25)	0.12	(0.01; 1.51)	0.47	(0.02; 3.14)
$P_{2031}/av(P_{1982-2010})$	B^{4-8}	0.45	(0.05; 1.55)	0.12	(0.02; 1.12)	0.10	(0.02; 0.82)	0.10	(0.02; 0.62)	0.07	(0.01; 0.46)	0.15	(0.02; 1.28)
	B^{sp}	0.52	(0.09; 1.67)	0.14	(0.02; 1.09)	0.11	(0.02; 0.80)	0.11	(0.03; 0.62)	0.08	(0.01; 0.45)	0.17	(0.03; 1.31)
$Prob<P_{2000}$	B^{4-8}	0.57	(0.00; 1.00)	0.95	(0.17; 1.00)	0.95	(0.26; 1.00)	0.95	(0.31; 1.00)	1.00	(0.38; 1.00)	0.95	(0.02; 1.00)
	B^{sp}	0.33	(0.00; 1.00)	0.86	(0.07; 1.00)	0.90	(0.14; 1.00)	0.90	(0.21; 1.00)	0.95	(0.28; 1.00)	0.86	(0.00; 1.00)
$Prob<1.5P_{2000}$	B^{4-8}	0.88	(0.10; 1.00)	1.00	(0.40; 1.00)	1.00	(0.48; 1.00)	1.00	(0.52; 1.00)	1.00	(0.78; 1.00)	1.00	(0.24; 1.00)
	B^{sp}	0.67	(0.00; 1.00)	1.00	(0.29; 1.00)	1.00	(0.38; 1.00)	1.00	(0.45; 1.00)	1.00	(0.64; 1.00)	1.00	(0.10; 1.00)
$Prob<2.0P_{2000}$	B^{4-8}	1.00	(0.31; 1.00)	1.00	(0.59; 1.00)	1.00	(0.71; 1.00)	1.00	(0.76; 1.00)	1.00	(0.90; 1.00)	1.00	(0.50; 1.00)
	B^{sp}	0.90	(0.14; 1.00)	1.00	(0.48; 1.00)	1.00	(0.59; 1.00)	1.00	(0.62; 1.00)	1.00	(0.86; 1.00)	1.00	(0.36; 1.00)
C_{2011}		6000	(6000; 6000)	6000	(6000; 6000)	6000	(6000; 6000)	6000	(6000; 6000)	6000	(6000; 6000)	6000	(6000; 6000)
C_{2012}		0	(0; 0)	4800	(3917; 6454)	5175	(4211; 6954)	6444	(4800; 7200)	6262	(4493; 7200)	4800	(4211; 4800)
C_{2013}		0	(0; 0)	3751	(0; 6202)	4037	(0; 7499)	5671	(3138; 8640)	5683	(1423; 8139)	3781	(0; 3840)
C_{2014}		0	(0; 0)	2785	(0; 7127)	3376	(0; 8565)	4269	(0; 9037)	5250	(0; 9214)	2871	(0; 4608)
C_{2015}		0	(0; 0)	1784	(0; 8045)	1895	(0; 8662)	0	(0; 9347)	2861	(0; 9788)	1973	(0; 5530)
C_{2016}		0	(0; 0)	687	(0; 8041)	0	(0; 8024)	0	(0; 7714)	532	(0; 8361)	1133	(0; 6387)
C_{2021}		0	(0; 0)	0	(0; 4769)	0	(0; 6016)	0	(0; 4590)	0	(0; 4513)	0	(0; 2899)
$C_{2011-2015}$		1200	(1200; 1200)	3763	(2005; 6475)	4166	(2057; 7378)	4814	(2788; 7803)	5168	(2587; 7744)	3783	(2057; 4956)
$C_{2016-2020}$		0	(0; 0)	454	(0; 4791)	376	(0; 5214)	100	(0; 4598)	635	(0; 5735)	308	(0; 4247)
$C_{2011-2020}$		600	(600; 600)	2104	(1124; 5046)	2411	(1210; 5624)	2540	(1423; 5637)	2835	(1458; 5976)	2081	(1028; 4583)
$C_{2021-2030}$		0	(0; 0)	0	(0; 5563)	84	(0; 5967)	82	(0; 5560)	233	(0; 5092)	0	(0; 4573)
$AAV_{2012-2020}$		14.3	(14.3; 14.3)	26.7	(17.8; 35.4)	22.7	(16.9; 34.6)	21.1	(17.5; 30.3)	27.6	(16.0; 41.7)	23.1	(17.1; 32.6)
$AAV_{2013-2020}$		11.1	(11.1; 11.1)	24.9	(15.0; 34.6)	20.5	(14.1; 33.7)	18.7	(14.7; 28.9)	25.9	(13.1; 41.5)	21.0	(14.3; 31.5)
$AAV_{2021-2030}$		0.0	(0.0; 0.0)	2.5	(0.0; 30.5)	12.5	(0.0; 32.9)	14.1	(0.0; 31.5)	17.9	(0.0; 36.9)	0.0	(0.0; 30.1)

Table Add4b: Projections results (median and 95% PI in parenthesis) for a series of performance statistics for different CMPs for **OM18** (future recruitment based on recruitments over the 1984-1984 period).

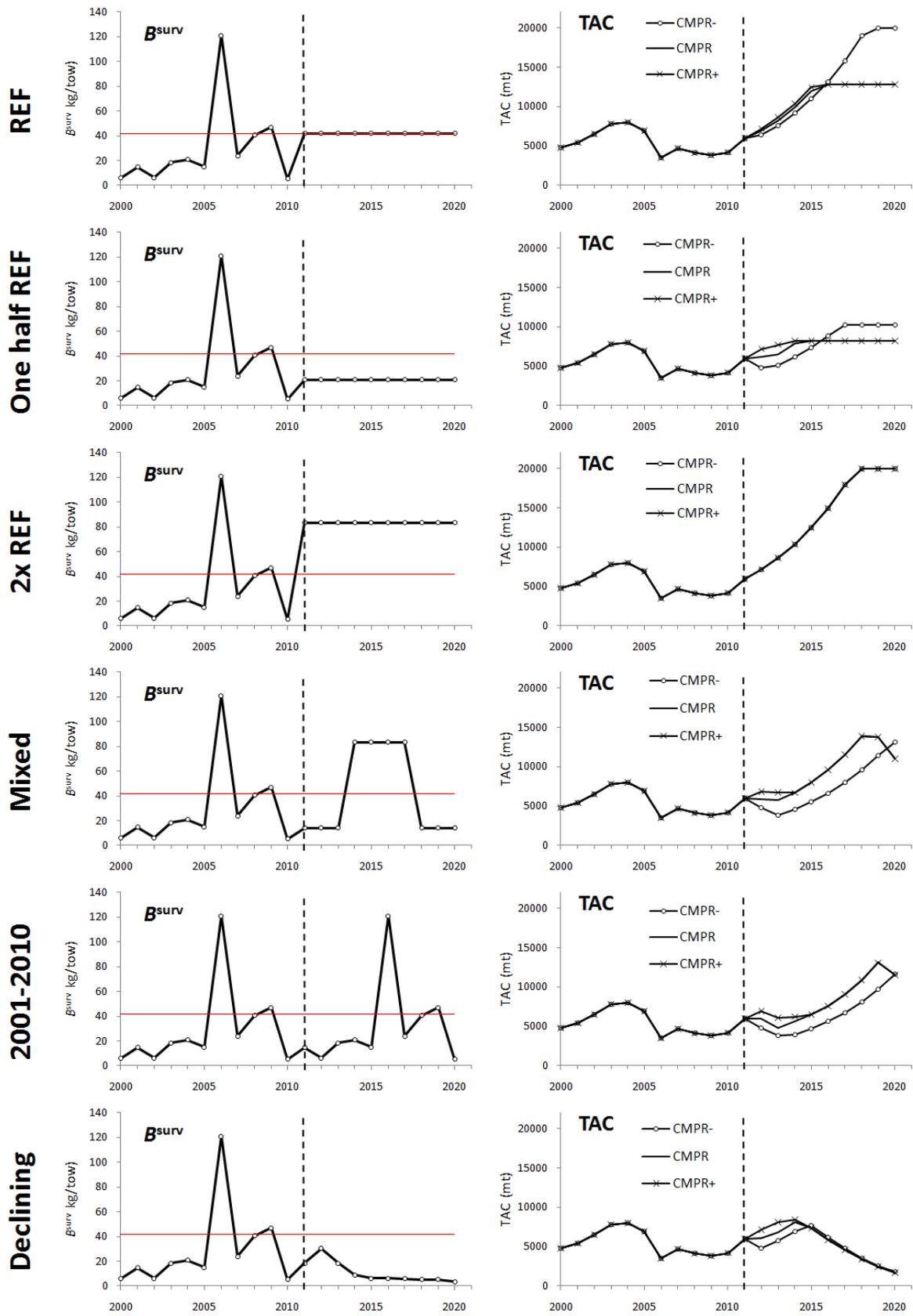| OM18		C=0	CMPR-	CMPR	CMPR+	CMPR_low	CMPR_high
$B^{4-8}_{(av2016-2031)}/B^{4-8}_{2000}$		6.66 (5.67; 7.55)	3.55 (1.99; 5.87)	3.88 (2.22; 5.58)	3.75 (2.08; 5.15)	3.42 (1.74; 4.74)	5.15 (3.62; 6.29)
P_{2021}/P_{target}	B^{4-8}	1.52 (1.19; 1.99)	1.15 (0.53; 1.64)	1.02 (0.42; 1.51)	0.97 (0.32; 1.46)	0.88 (0.23; 1.36)	1.34 (1.02; 1.72)
	B^{sp}	3.09 (2.53; 3.70)	1.54 (0.58; 2.57)	1.16 (0.41; 2.22)	1.07 (0.31; 1.96)	0.93 (0.22; 1.64)	2.06 (1.40; 2.84)
P_{2016}/P_{2000}	B^{4-8}	6.64 (4.80; 8.53)	4.76 (2.92; 6.73)	4.11 (2.21; 6.04)	3.68 (1.86; 5.46)	3.59 (1.92; 5.33)	5.27 (3.48; 6.83)
	B^{sp}	8.43 (6.41; 10.59)	5.59 (3.53; 7.88)	4.76 (2.63; 7.13)	4.26 (2.14; 6.44)	4.11 (2.26; 6.29)	6.19 (4.22; 7.97)
P_{2021}/P_{2000}	B^{4-8}	6.59 (5.14; 8.61)	4.99 (2.28; 7.11)	4.43 (1.82; 6.53)	4.23 (1.39; 6.32)	3.79 (1.02; 5.90)	5.80 (4.41; 7.48)
	B^{sp}	16.41 (13.43; 19.67)	8.22 (3.07; 13.68)	6.19 (2.19; 11.80)	5.71 (1.67; 10.44)	4.95 (1.19; 8.71)	10.95 (7.47; 15.10)
P_{2031}/P_{2000}	B^{4-8}	6.48 (5.06; 9.18)	1.63 (0.37; 4.84)	2.79 (0.21; 5.91)	2.83 (0.41; 6.14)	2.63 (0.38; 5.78)	3.55 (0.29; 6.59)
	B^{sp}	16.10 (13.30; 19.69)	1.85 (0.40; 7.02)	3.50 (0.24; 7.70)	3.67 (0.45; 8.84)	3.25 (0.43; 7.98)	5.06 (0.33; 9.61)
$P_{2021}/av(P_{1982-2010})$	B^{4-8}	2.32 (1.81; 3.04)	1.76 (0.80; 2.51)	1.56 (0.64; 2.30)	1.49 (0.49; 2.22)	1.34 (0.36; 2.08)	2.04 (1.56; 2.63)
	B^{sp}	4.90 (4.01; 5.87)	2.45 (0.92; 4.08)	1.85 (0.65; 3.52)	1.71 (0.50; 3.12)	1.48 (0.36; 2.60)	3.27 (2.23; 4.51)
Prob<P_{2000}	B^{4-8}	0.00 (0.00; 0.05)	0.10 (0.00; 0.31)	0.05 (0.00; 0.26)	0.05 (0.00; 0.29)	0.05 (0.00; 0.36)	0.00 (0.00; 0.17)
	B^{sp}	0.00 (0.00; 0.00)	0.05 (0.00; 0.26)	0.00 (0.00; 0.22)	0.00 (0.00; 0.19)	0.00 (0.00; 0.29)	0.00 (0.00; 0.14)
Prob<$1.5P_{2000}$	B^{4-8}	0.10 (0.05; 0.10)	0.19 (0.05; 0.45)	0.10 (0.05; 0.41)	0.10 (0.05; 0.45)	0.10 (0.05; 0.48)	0.10 (0.05; 0.26)
	B^{sp}	0.05 (0.00; 0.10)	0.14 (0.00; 0.43)	0.05 (0.00; 0.33)	0.05 (0.00; 0.33)	0.05 (0.00; 0.43)	0.05 (0.00; 0.19)
Prob<$2.0P_{2000}$	B^{4-8}	0.10 (0.05; 0.12)	0.29 (0.10; 0.52)	0.14 (0.05; 0.50)	0.14 (0.05; 0.57)	0.19 (0.05; 0.64)	0.10 (0.05; 0.29)
	B^{sp}	0.10 (0.05; 0.10)	0.24 (0.05; 0.48)	0.10 (0.05; 0.43)	0.10 (0.05; 0.45)	0.14 (0.05; 0.52)	0.10 (0.05; 0.26)
C_{2011}		6000 (6000; 6000)	6000 (6000; 6000)	6000 (6000; 6000)	6000 (6000; 6000)	6000 (6000; 6000)	6000 (6000; 6000)
C_{2012}		0 (0; 0)	4800 (4151; 6767)	5677 (4368; 7056)	6695 (4800; 7200)	6441 (4923; 7200)	4800 (4368; 4800)
C_{2013}		0 (0; 0)	3840 (2466; 5760)	5243 (2907; 7225)	6422 (3887; 8597)	6262 (3519; 7850)	3840 (2907; 3840)
C_{2014}		0 (0; 0)	4608 (1831; 6912)	6029 (2280; 8467)	6624 (2978; 9431)	7127 (4223; 9109)	3072 (2198; 4608)
C_{2015}		0 (0; 0)	5530 (1744; 8294)	6546 (2668; 9563)	6923 (3322; 10519)	7636 (4861; 10292)	3285 (1759; 5530)
C_{2016}		0 (0; 0)	6464 (2127; 9953)	7440 (3202; 10845)	7693 (3637; 11506)	8408 (5705; 11936)	3670 (1719; 6636)
C_{2021}		0 (0; 0)	14204 (5448; 19552)	11753 (6635; 19141)	11127 (5872; 19307)	11752 (6241; 18956)	7591 (3665; 14230)
$C_{2011-2015}$		1200 (1200; 1200)	4956 (3382; 6545)	5942 (3743; 7426)	6594 (4301; 8064)	6735 (4867; 7875)	4099 (3478; 4956)
$C_{2016-2020}$		0 (0; 0)	9324 (3246; 14272)	9376 (4765; 13286)	8984 (5357; 13346)	9973 (6617; 13739)	5239 (2224; 9876)
$C_{2011-2020}$		600 (600; 600)	7155 (3441; 10419)	7668 (4219; 9681)	7745 (5071; 9974)	8243 (6452; 10268)	4595 (3002; 7416)
$C_{2021-2030}$		0 (0; 0)	14492 (7666; 18272)	12754 (5994; 16393)	12362 (5419; 16139)	11763 (4195; 15774)	12987 (9042; 16489)
$AAV_{2012-2020}$		14.3 (14.3; 14.3)	22.2 (19.0; 26.7)	18.5 (12.8; 24.7)	17.0 (12.5; 22.8)	16.5 (11.3; 22.8)	22.3 (19.7; 25.5)
$AAV_{2013-2020}$		11.1 (11.1; 11.1)	19.9 (16.3; 24.9)	15.8 (9.4; 22.7)	14.2 (9.1; 20.6)	13.6 (7.8; 20.5)	20.0 (17.2; 23.6)
$AAV_{2021-2030}$		0.0 (0.0; 0.0)	16.4 (7.8; 26.6)	15.8 (9.7; 24.8)	16.0 (10.0; 24.2)	15.5 (10.2; 32.0)	17.0 (9.7; 20.0)

*Fig.Add1a: Catch and survey biomass trajectories under **CMPR-, CMPR** and **CMPR+**, for a series of future survey scenarios provided by H Stone.*
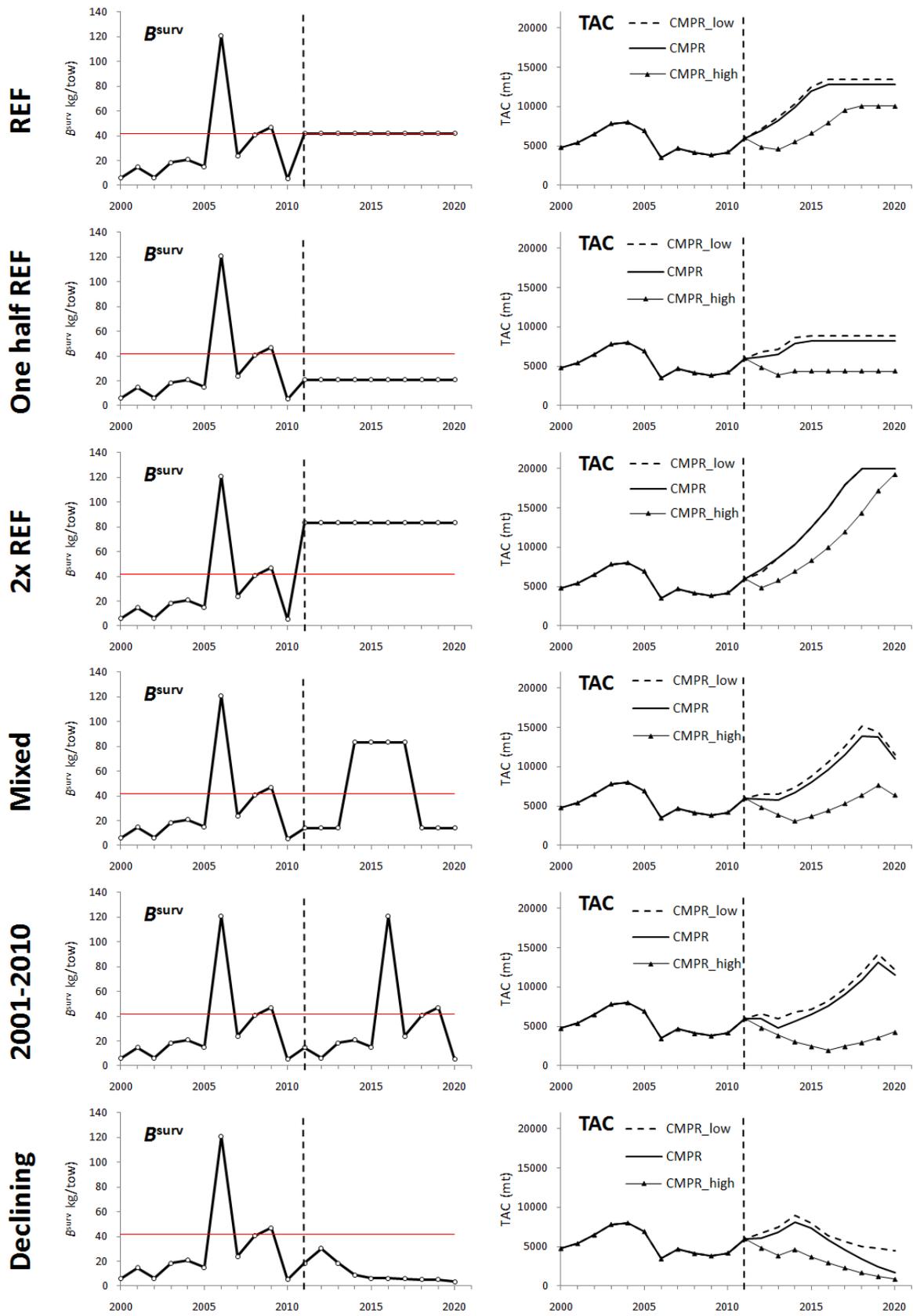
*Fig.Add1b: Catch and survey biomass trajectories under **CMPR_low**, **CMPR** and **CMPR_high**, for a series of future survey scenarios provided by H Stone.*
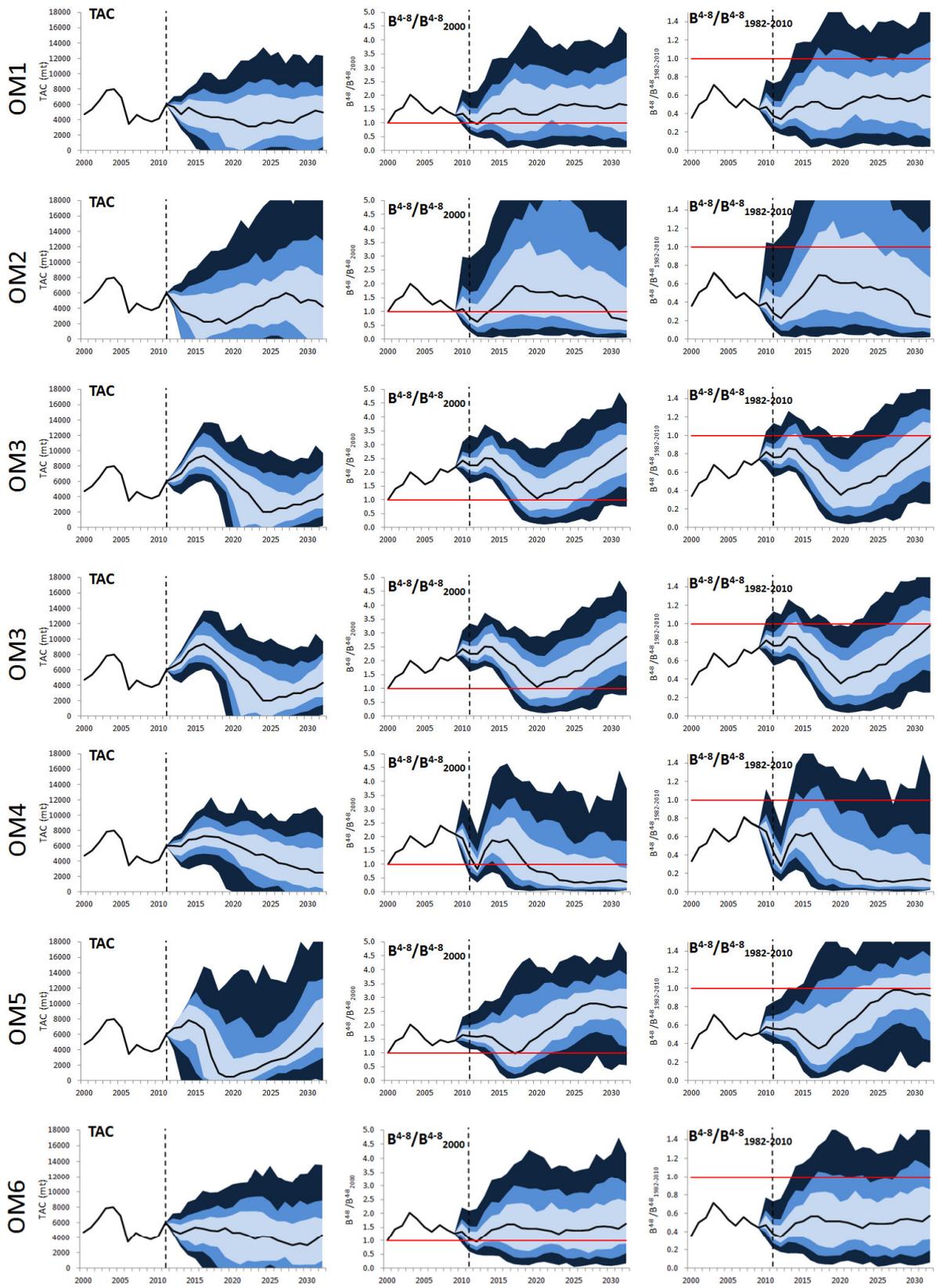
*Fig. Add2: 95, 75, 50% PI and median for a series of performance statistics for **CMPR** applied to each OM in the RS and the robustness tests.*
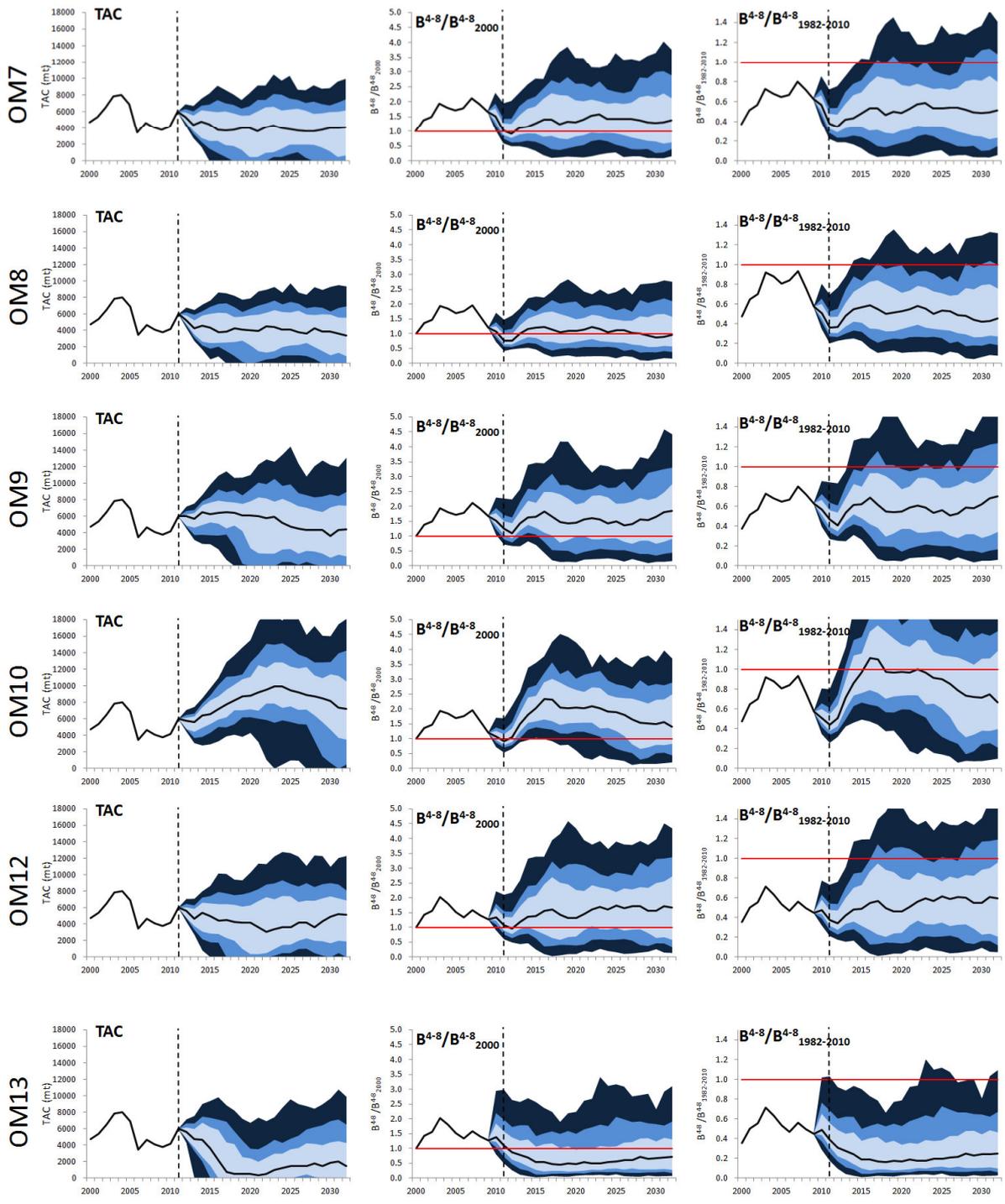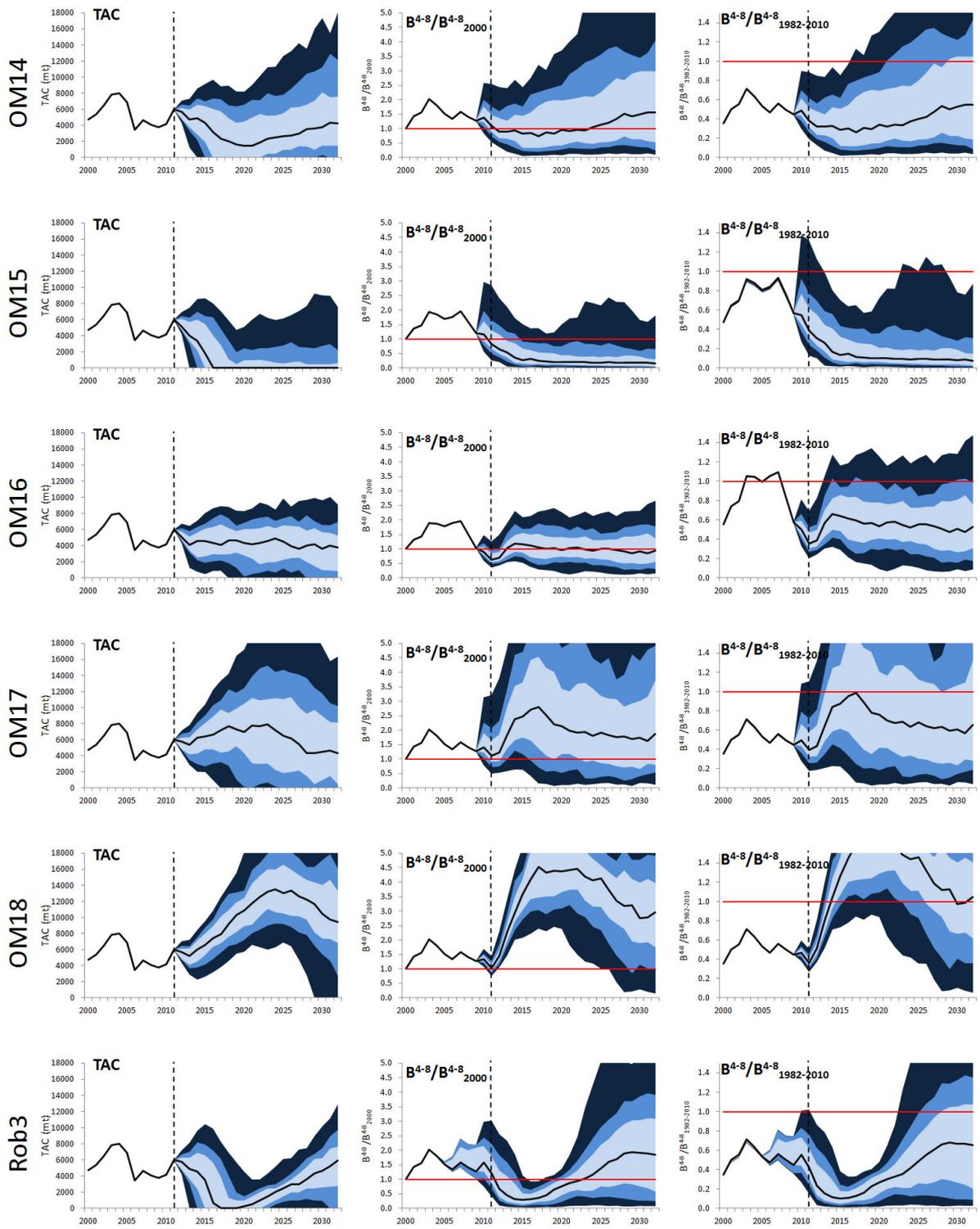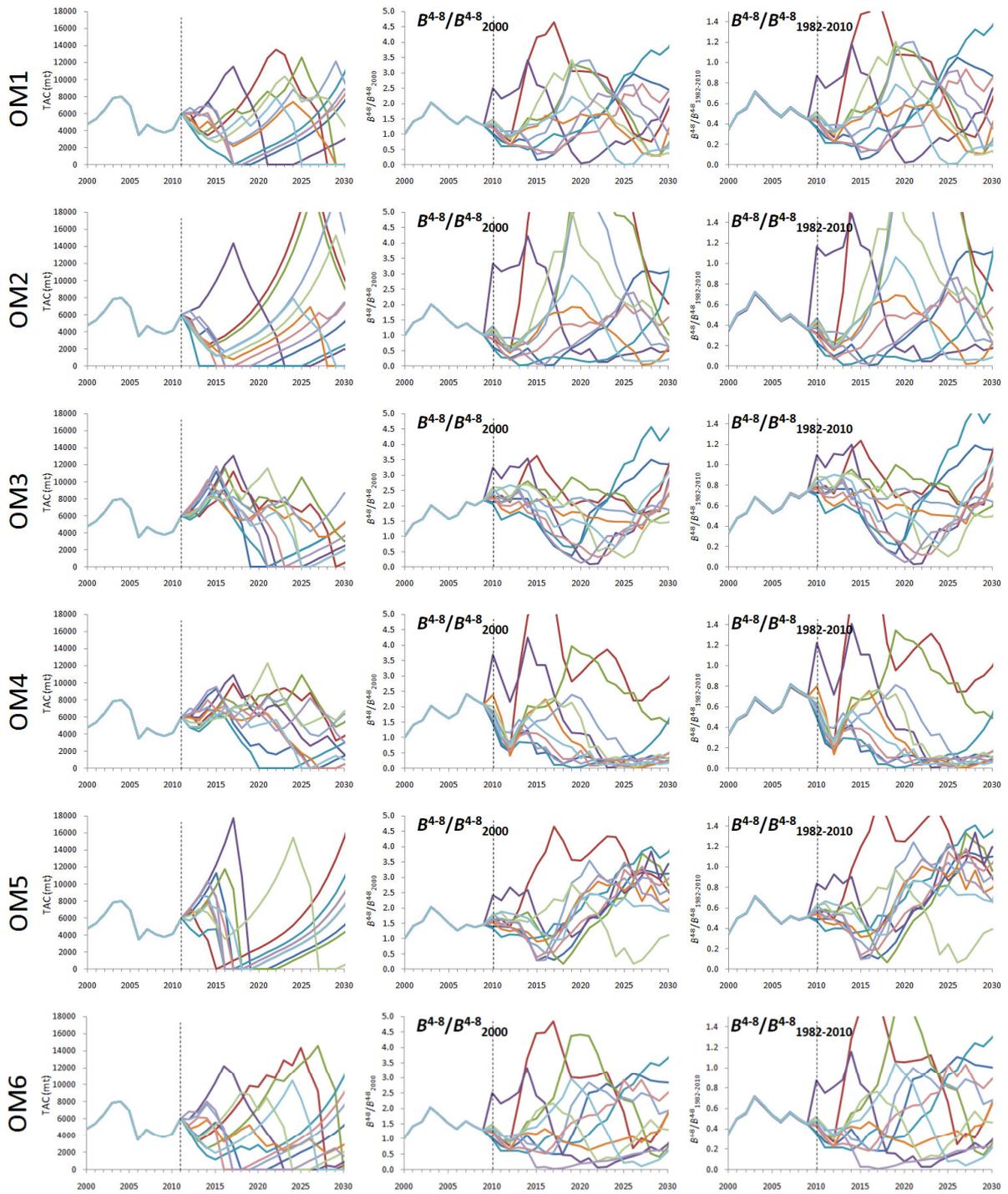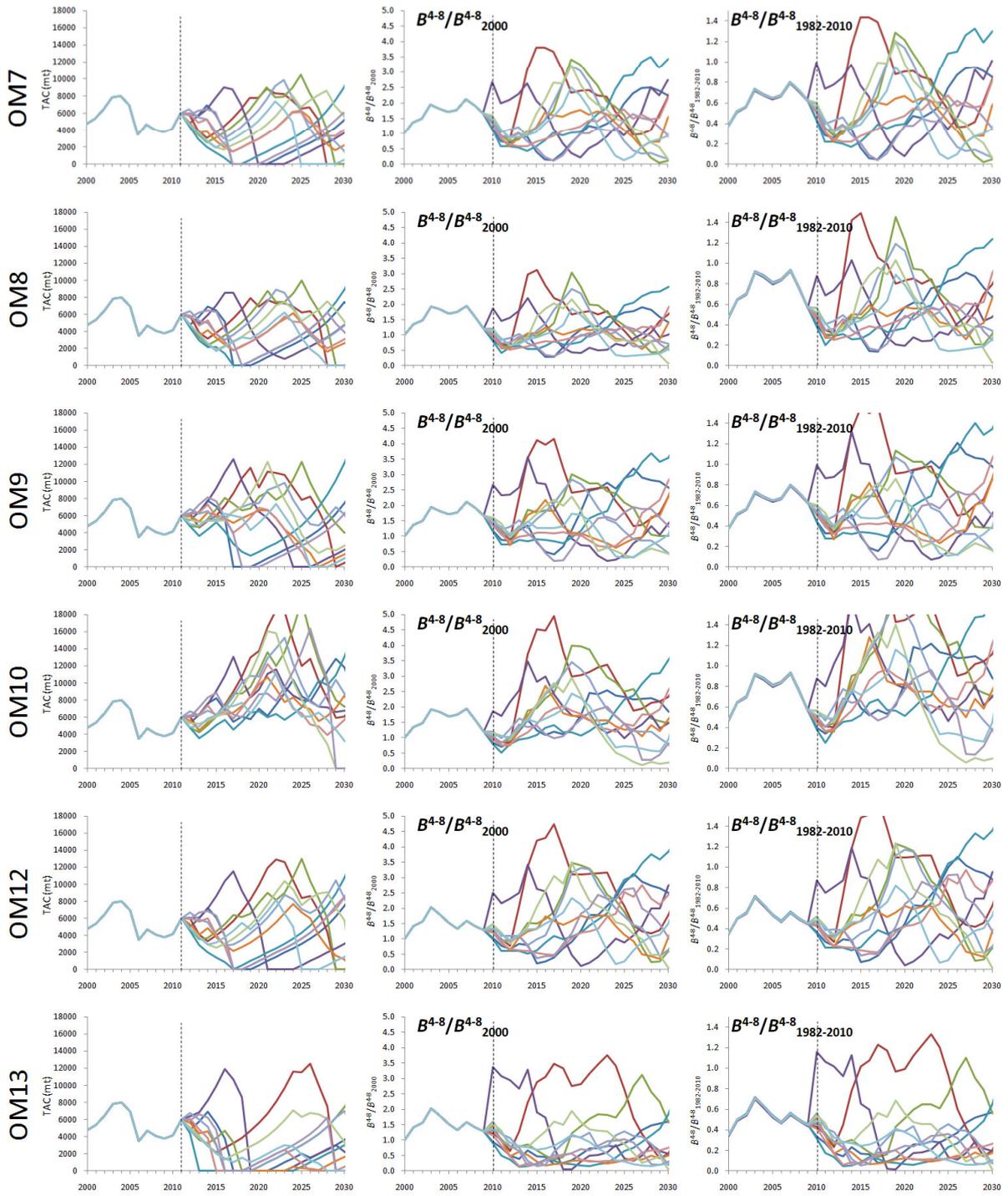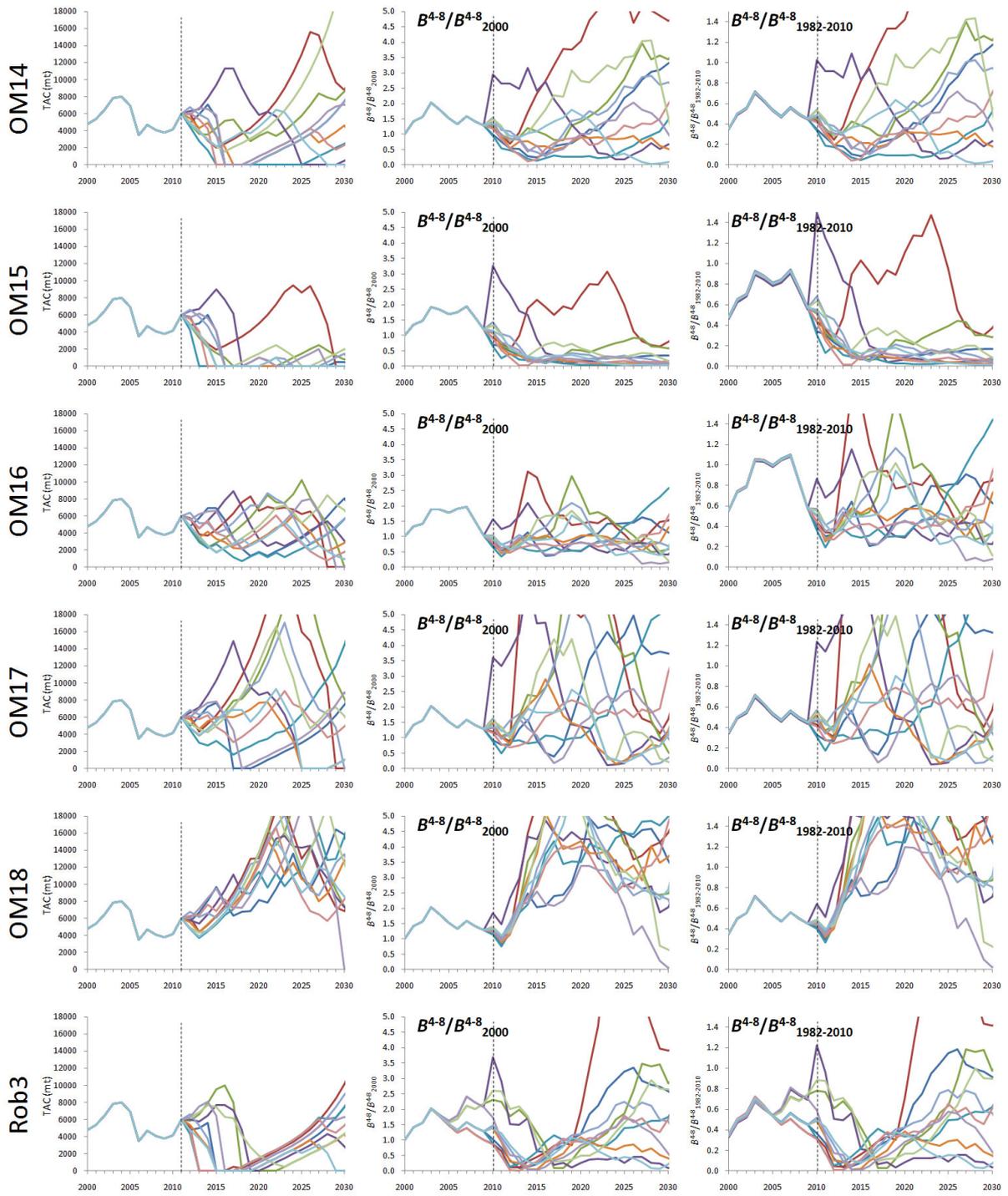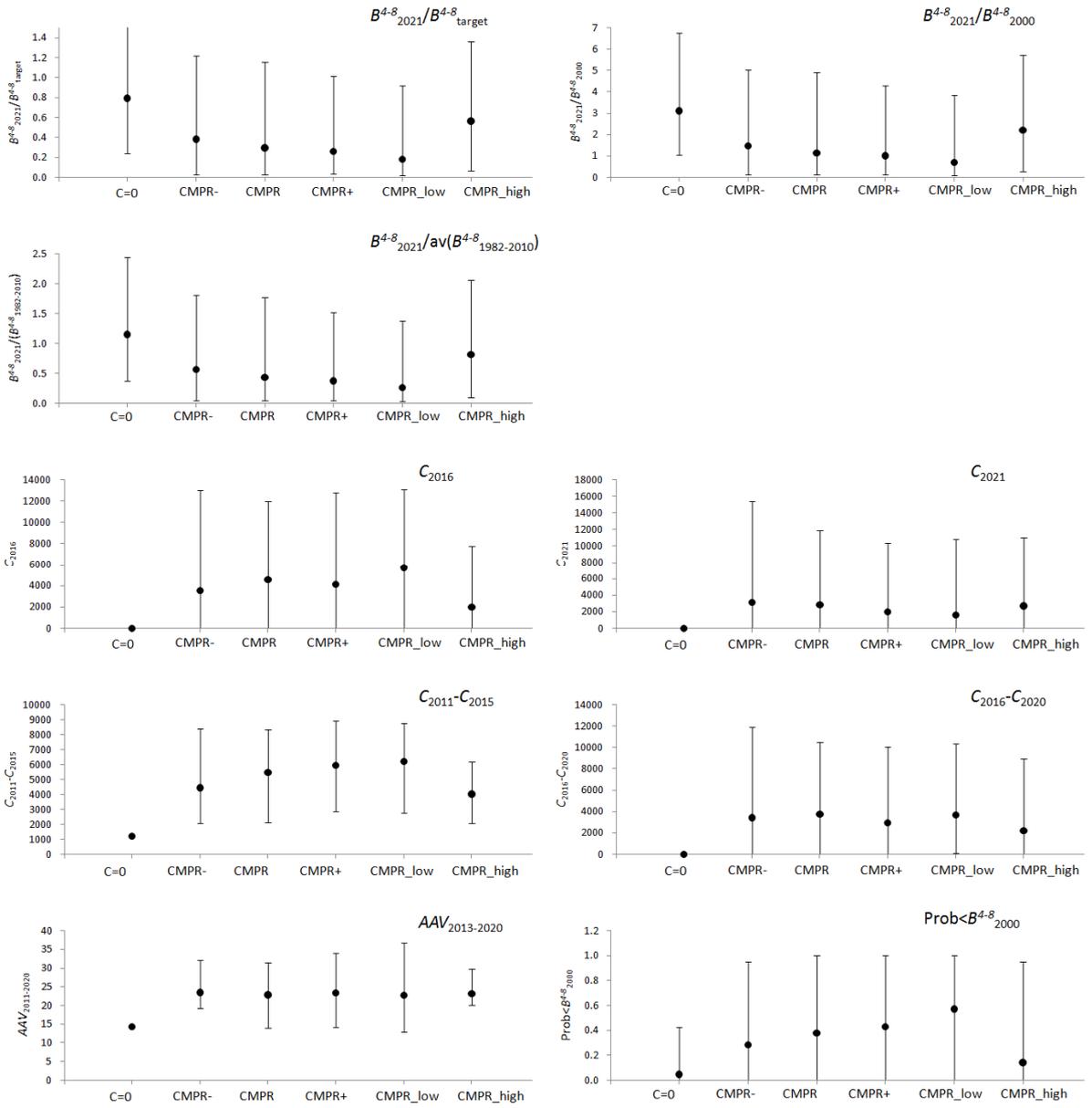
Fig. Add2: continued

Fig. Add2: continued

Fig. Add3: "Worm " plots for a series of performance statistics for **CMPR** applied to each OM in the RS and the robustness tests.

Fig. Add3: continued

Fig. Add3: continued

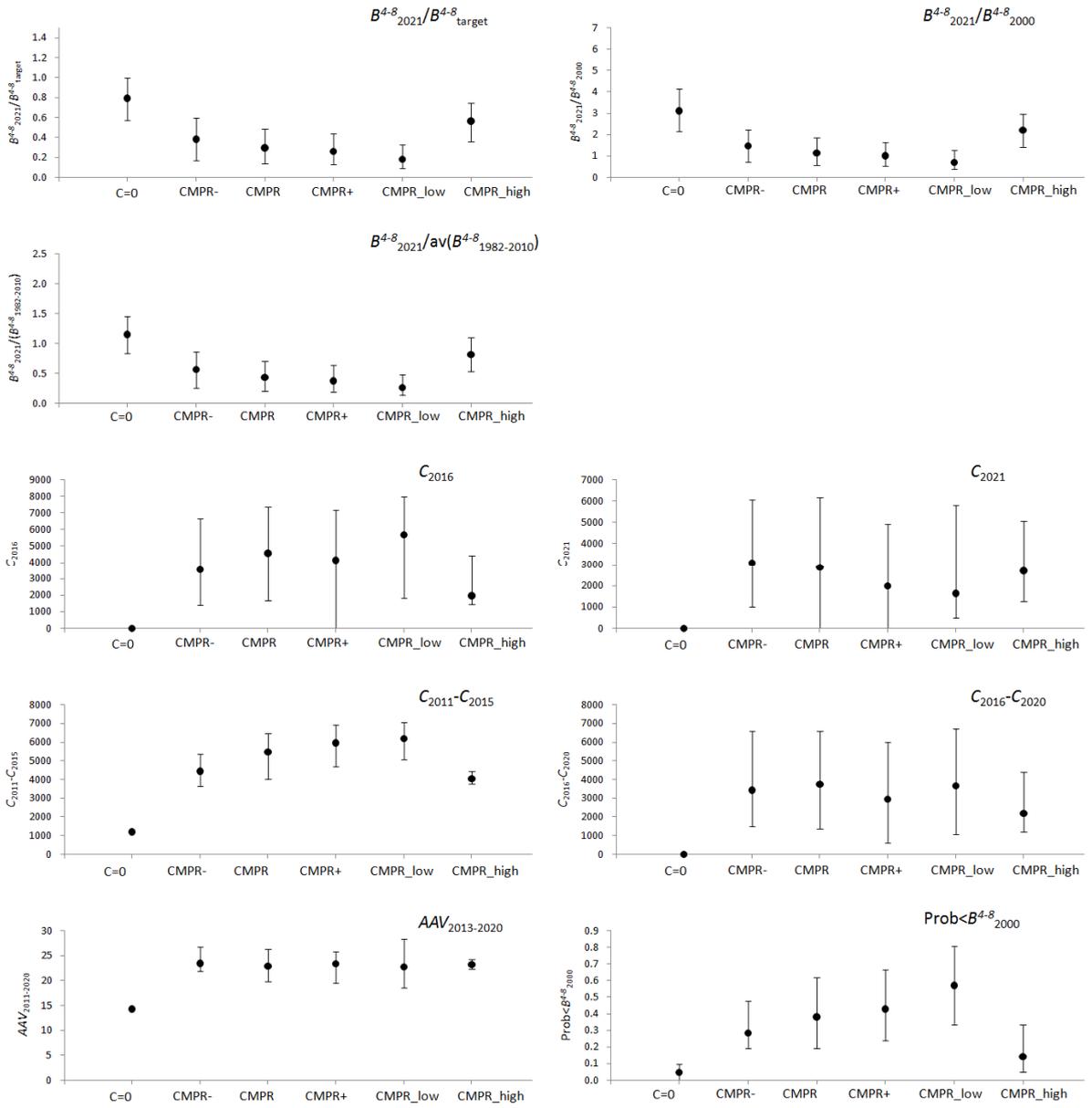*Fig. Add4a: Medians and **95% PI** (error bars) for a series of performance statistic for different CMPs applied to the **RS**.*

Fig. Add4b: Medians and **50% PI** (error bars) for a series of performance statistic for different CMPs applied to the **RS**.
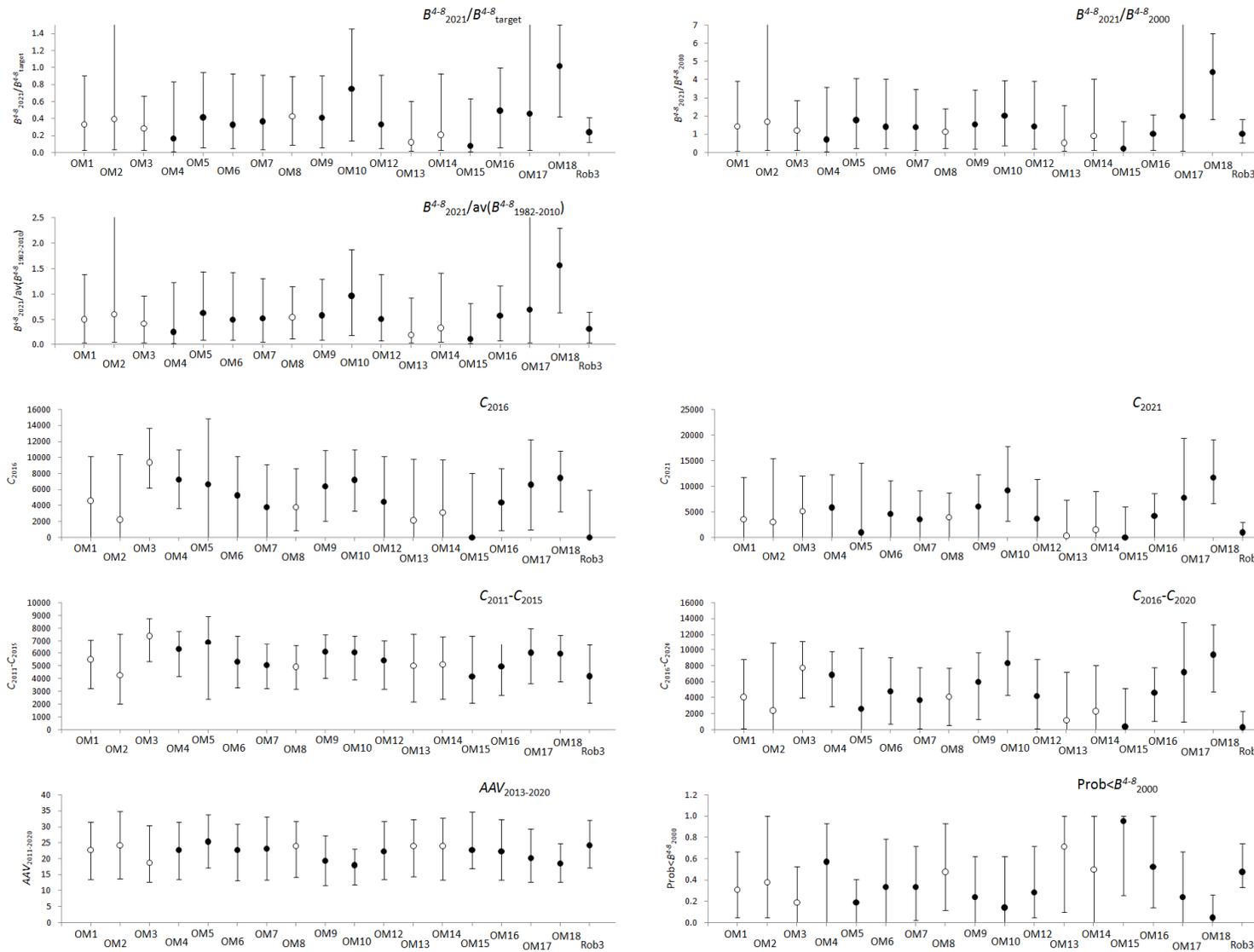
Fig. Add5a: Medians and **95% PI** (error bars) for a series of performance statistic for **CMPR** applied to each OM in the RS and the robustness tests. The white dots show the OMs that are in the RS.
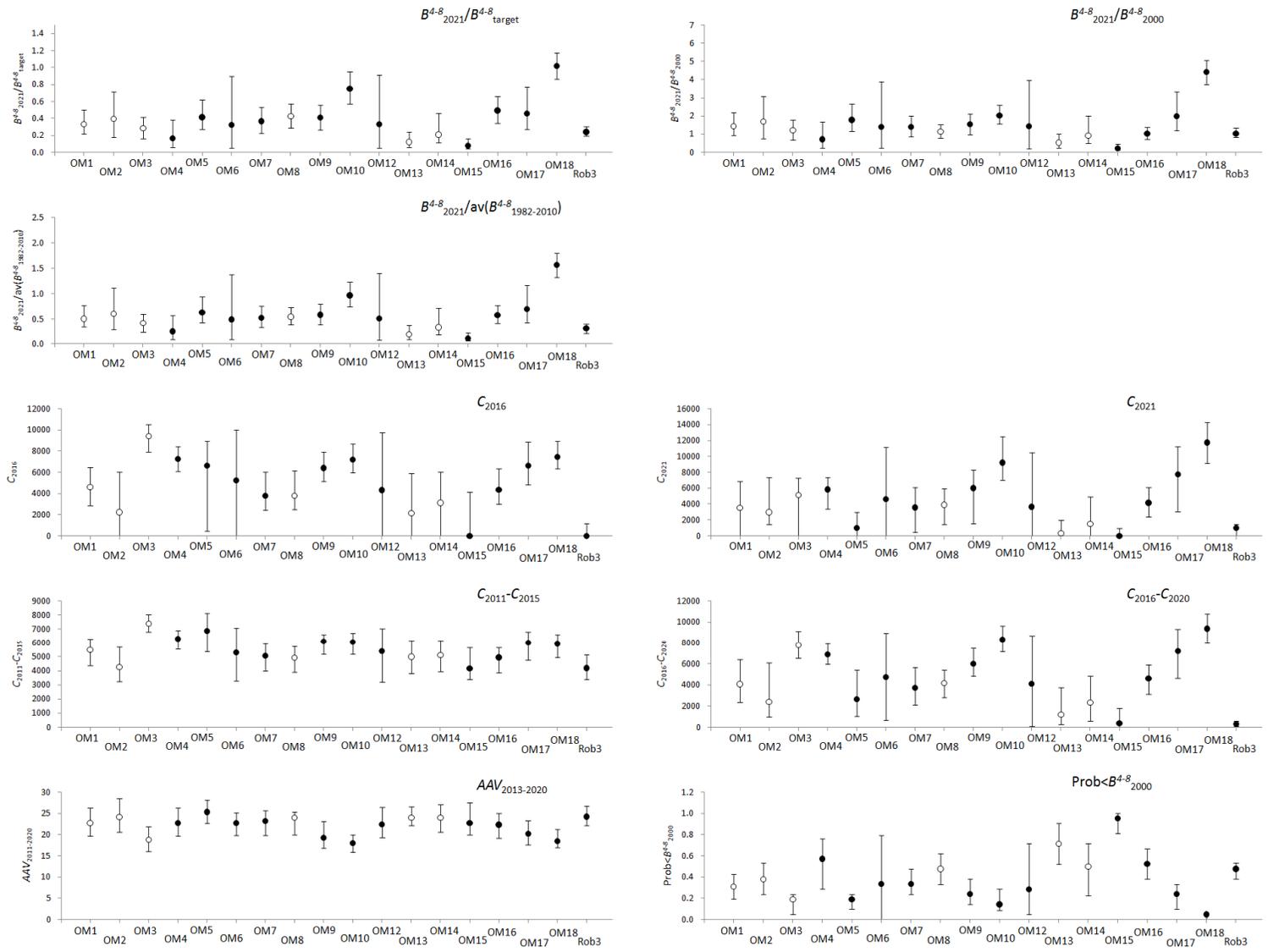
Fig. Add5b: Medians and **50% PI** (error bars) for a series of performance statistic for **CMPR** applied to each OM in the RS and the robustness tests. The white dots show the OMs that are in the RS.