Commission for the Conservation of
Southern Bluefin Tuna

みなみまぐろ保存委員会

4

2005 5 16-21

4

2005 5 16-21

1.

1.

2. (**1)**

3. **2**

4. **3**

2.

5. MP
2005 2

6.

7.

8.

		Cumul N				
Steepness	3	3	0.385	0.55	0.73	0.2, 0.6, 0.2
M0	3	9	0.3	0.4	0.5	
M10	2	18		0.1	0.14	
	2	36		0.75	1	0.4, 0.6
CPUE	5	180				
q	2	360		4-18	8-12	0.67, 0.33
	2	720		Sqrt	Original/2	

9.

-

M10

- 5a TAC
2000 2001
2 2010

-

-

10. MP

2000 2001
2000 2001

2

2005 8 (SAG)

5.1

3.

3.1 2005 2 MP

11. CCSBT-MP/0505/04 06 07 08
CPUE MP
MP

12. CCSBT-MP/0505/04 FXR_01
CGF FXR_01
TAC r^2 r

TAC

TAC
90

2015
TAC TAC

13. CCSBT-MP/0505/06 D&M MP
MP 2 TAC
TAC
TAC CPUE
TAC
2008 3
MP

MP

TAC

Triple R

14. CCSBT-MP/0505/07 HK5 MP HK5
LL1 CPUE
4 CPUE 4 CPUE
TAC HK5

5
TAC HK5_01 HK5
TAC
TAC
HK5_02
TAC

15. CCSBT-MP/0505/08
2014
TAC

2003 2004
1999
TAI_ TAC
TAC TAC
TAI_
CPUE 6
MP
TAI_A4 TAI_05

16.
A- MP
AAV TAC
AAV

CCSBT-MP/0505/04 10
TAC
4
CCSBT

17. 2
MP
2b TAC 2008 3
1.1
MP
2
MP **5**

- CCSBT-MP/0505/04 CGF_01 CGF_42
- CCSBT-MP/0505/06 D&M_02 D&M_03
- CCSBT-MP/0505/07 HK5_01 HK5_02
- CCSBT-MP/0505/08 TAI_05 TAI_A4

18. CGF D&M AAV TAI
HK5

19. CGF D&M HK5 TAI B_{2022}:B_{2004}
2 (i)
(ii)

20. B_{2014}:B_{2004} B_{MIN}:B_{2004}
MP 1 1 CGF D&M
TAI 0.5 0.6 MP

21. TAC TAI_A4 HK5 2
TAC 5000 CGF
D&M 5000 TAC

22. 10 20 MP
TAI
TAI MP

B_{2014}:B_{2004} B_{MIN}:B_{2004}
CGF

23. TAC B_{2014} B_{2022} 10
3 CGF
D&M
AAV MP HK5

24. MP TAC

OM MP
MP CMP

MP

OM OM

CMP
2

25. D&M 2 MP
MP

MP

26. 8 MP no AC Triple-R
2000 2001 3
75% low R four 2000 2001 4

3

27.

MP

28.
B_{2014}:B_{2004} 10 10
2 TAI

B_{2022}:B_{2004} 50
20
2 TAI B_{2022}:B_{2004} 50
1.1 HK5_01
D&M_02
2011 CGF TAC

29. MP
2011
MP 1
TAC D&M

30. 2008 2011 TAC MP
4 MP
3 MP 2008 TAC
D&M_03 TAC ~10%
HK5_01 TAI_05 2008 2011 TAC
2008 TAC
CFG_42 D&M_03 2008 TAC
~30% ~20%
no AC/Triple R low R4 MP
2008 2011 TAC MP
CPUE

D&M_03 2008
TAC
MP 2011 TAC
2011 MP

31. MP MP MP
TAC
MP
a TAC
2006 3 *c* TAC 2008
5 CGF
a *b* *c*

MP

32. *c*

33. *b* *a*
MP TAC
CGF
D&M_03 *b*
2 MP *a*

34. MP

D&M *a* *b* TAC

35. TAC
TAC

2005 SAG 2008 MP TAC
2006 TAC

MP
MP
TAC

36. MP
MP

37. 5000 2500 TAC

TAC 2006 2007

Fox MP

38. SSB_{2022}/SSB_{2004} 3 0.9 1.1 1.3
2 MP

39. 1 2

- 2015 MP
- 1.3 TAC
  1.3

40. 2
TAC 5000

41. CPUE

2004 2005

no AC Triple-R
CPUE MP TAC
CPUE
2009

42. MP
MP
CPUE
MP OM

CPUE
4 CPUE
OM
OM

4.

4.1 MP

43. MP MP
1
MP

MP

- TAC - 2008 2014
- TAC - 20
- SSB - 2014 SSB
- SSB -
- 2022 TAC - 2022 TAC
- 2032 TAC - 2032 TAC
- 2022 -
- 2015 TAC - 10 50%
- 2015 TAC - 10 50%
- AAV TAC - TAC
- steepness

MP

1. 1.1 TAC 2008 3

		CGF_01	CGF_42	D&M_02	D&M_03	HK5_01	HK5_02	TAI_A4	TAI_05
TAC									
2015 TAC									
2015 TAC									
TAC									
SSB									
SSB									
2022 TAC									
2032 TAC									
2022									
AAV TAC									
TAC steepness									
steepness									
3									
4									
steepness									
			X		**X**	**X**			**X**
			CMP_1		**CMP_2**	**CMP_3**			**CMP_4**

44. MP 2022 2004 0.9 1.1 1.3
2
1
2

MP 2

- TAC
- TAC
- 2022 TAC
- 2032 TAC

45. 1 2
2022
CPUE

CPUE

46. 2008
10 40% 2014
2004 5% MP
10
3% 14%

10

47.

- SSB
- SSB
- 2022

48. CPUE
CPUE

MP 10 CPUE
54% 1

49. MP

TAC

- TAC steepness
- steepness
- TAC 3
- R

50. MP

- AAV TAC

51. MP MP
MP
MP 1
CGF 2
MP

- CGF –
  TAC CGF_42
- TAI – MP
  TAI_05 TAI_A4
  MP TAC CPUE
  steepness CPUE

- D&M – D&M_02
  D&M_03 D&M_02
  CGF D&M_03

- HK – TAC

HK5_01

52. 4 MP 1

53. SBT
2015
2004 2014
2004 LL1 CPUE
2009 LL1 CPUE
4 CMP 1.1
Triple R low R4

54. 2004 - 2013
2014 2004
CMP_4
CMP_2 CMP_3 CMP_1
AAV TAC

CMP_3 CMP_2 CMP_4
CMP_1 20
CMP_1 ~10500; CMP_4~9200

b 1.1 4
CMP 10

MP	2004 2013 10
CMP_4	13,000
CMP_3	12,200
CMP_2	12,000
CMP_1	11,300

55.

2014
2004 CMP_1
CMP_3 CMP_2 CMP_4
10

10 LL1 CPUE
2004 50 – 60 % MP
B_{2022}/B_{2004} 10
R CMP 2 3 4
~0.0 CMP_1 ~0.25
b 1.1 B_{2014}/B_{2004}

			R	**R**
CMP		10	10	10
CMP_1	0.67	0.28	0.12	0.50
CMP_2	0.62	0.23	0.07	0.41
CMP_3	0.61	0.21	0.04	0.34
CMP_4	0.56	0.13	0.00	0.38

56. 2

- SAG 5
  SBT 3 – 14%

  MP 2014 55 – 68%
  10%
  10
  2 – 3%

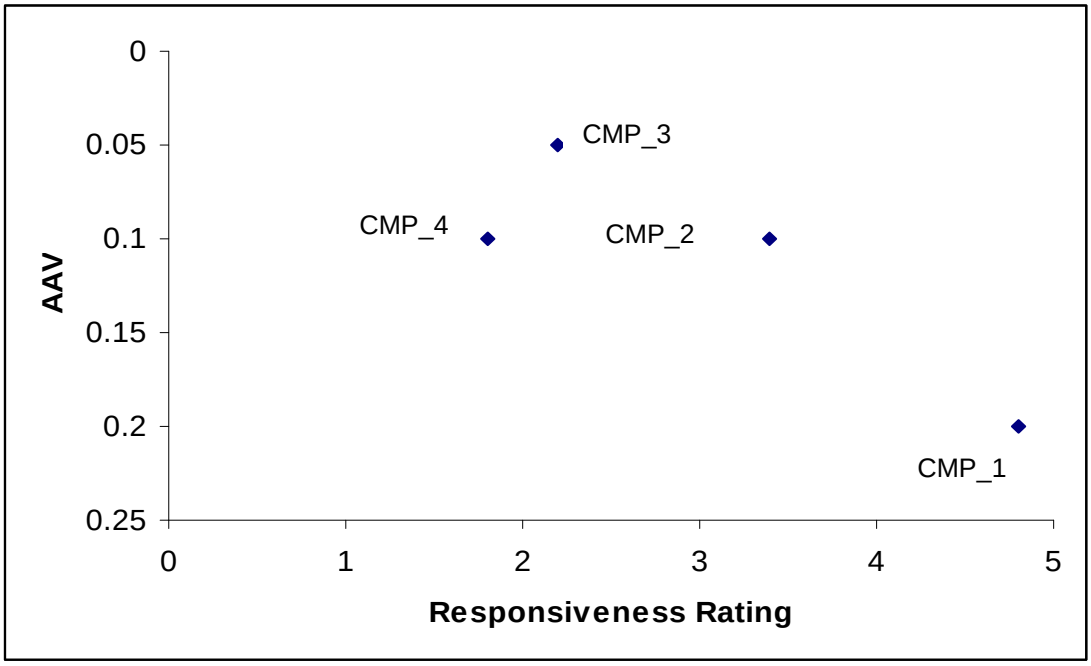
- 10 MP LL1 CPUE 2009
  2004 50 – 60 %

  2009 CPUE 2014 2004 80-90%

57. MP 2
5

MP
5
4 3 1
MP 1

AAV
CMP_1 MP
CMP_4 CMP_3
CMP_2 MP
AAV



1. CMP AAV

58.

MP CPUE

MP CPUE

3-14% 50 - 90%

TAC CPUE

MP

59.

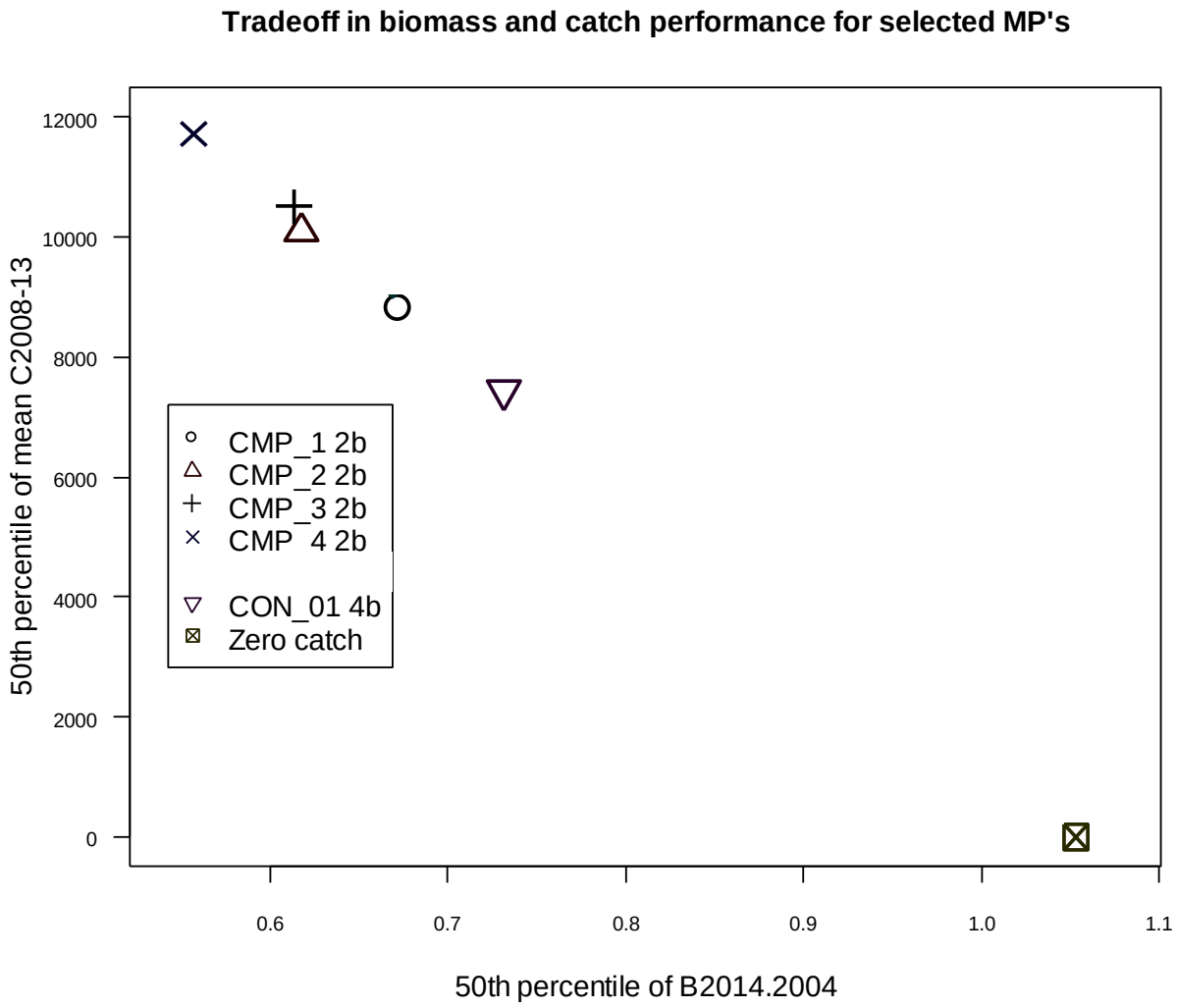
- 10 CPUE
- 3 -14 %
- MP
  2014 2004 30 - 45%
- 2008 2014
  2004 105%
- LL1 CPUE 4-9) 2009 2004 50–
  60 %
  2009 2014 2004 80-90%

60. 2005 9 SC CCSBT MP
SAG6 SBT MP
5 8 MP
5 23

61. 4 MP

2
2 MP
4 MP

2
4



2. 1.1

CON_01 4b TAC 3

2014

62. SC9 SBT

2

4 MP

1

SAG6

SAG6

MP CPUE

63. MP
CCSBT03
MP
MP 2014 2004 72%
50% 33%
10% MP
CMP
2 5

SAG

64.
6

CPUE
CPUE

CPUE
MP

65. MP
MP 2008
2006 TAC MP
2006 TAC MP
MP
2006 CPUE

66.
SAG 6
CMP
no AC,
Triple R 4
MP 2022
80 95% 2022
10
30 50%

2. 4 MP *b* 2008
3 2004 2014 10

			CMP_1	CMP_2	CMP_3	CMP_4
0.9			0.20	0.20	0.16	0.09
1.1	0.72	0.33	0.28	0.23	0.21	0.13
1.3			0.33	0.27	0.28	0.18

3. 4 MP *b* 2008
3 2004 2009 CPUE
10

			CMP_1	CMP_2	CMP_3	CMP_4
0.9			0.28	0.29	0.28	0.27
1.1	0.36	0.30	0.29	0.29	0.29	0.27
1.3			0.30	0.29	0.29	0.28

4. 4 MP *b*
2008 3 2004 2014 CPUE
50

			CMP_1	CMP_2	CMP_3	CMP_4
0.9			0.60	0.59	0.56	0.52
1.1	1.05	0.73	0.67	0.62	0.61	0.56
1.3			0.73	0.65	0.67	0.60

5. 4 MP *b*
2008 3 2004 2009
CPUE 50

			CMP_1	CMP_2	CMP_3	CMP_4
0.9			0.53	0.53	0.53	0.52
1.1	0.64	0.55	0.54	0.54	0.54	0.53
1.3			0.55	0.54	0.55	0.53

6. Low R4
Triple R *b* 2008
3 1.1 2004
2009 CPUE
$\mathbf{B}_{2014}:\mathbf{B}_{2004}$

/

			CMP_1	CMP_2	CMP_3	CMP_4
50th Low R4	0.80	0.46	0.39	0.34	0.34	0.27

10th Low R4	0.63	0.19	0.12	0.07	0.04	0.00
50th Triple_R	1.50	1.13	0.96	0.90	0.84	0.89
10th Triple_R	0.97	0.62	0.50	0.41	0.34	0.38

2009 CPUE 2004 CPUE

/

			CMP_1	CMP_2	CMP_3	CMP_4
50th Low R4	0.37	0.32	0.31	0.31	0.31	0.30
10th Low R4	0.23	0.19	0.19	0.19	0.19	0.18
50th Triple_R	0.88	0.79	0.77	0.77	0.76	0.76
10th Triple_R	0.54	0.46	0.45	0.44	0.43	0.43

5.

67. CCSBT-MP/0505/05 CCSBT-MP/0505/09

68. CCSBT-MP/0505/05 MP

MP

3

5 1

CCSBT-MP/0505/05 2 3

TAC

69. CCSBT-MP/0505/05 MP

TAC MP TAC

MP

70. CCSBT-MP/0505/09 OM

MP

CPUE OM 4

20 2004 OM

MP

MP

OM MP

MP

71. CCSBT-MP/0505/09 MP

CPUE

CMP CPUE

MP CPUE

MP

72. CCSBT-MP/0505/09 SAG6 / SC10 1999 2004 6

73. 5.1 5.2

5.1 MP

74. MP 2005 2

SAG/SC

CMP

75. Cfull2 lowR2 lowR4 noAC noAC_tripleR expl 2002 2003 SAG/SC

76. Cfull2 lowR2

Cfull2 lowR2 lowR4 expl noAC_tripleR noAC expl expl

77. CMP 3 0.9 1.1 1.3 Cfull2

CMP

78. TAC 2006

TAC 0 1 2006 2500 TAC 2007 2 2006 5000

TAC 2007
MP b
2008 2006 TAC TAC 2007

79. SAG/SC MP
7
MP
AD Model Builder ADMB
CMP Cfull2

7. SAG/SC 4 CMP CMP
2008 TAC 3

MP	CMP_1 CMP_2 CMP_3 CMP_4	4	4
	0.9 1.1 1.3 Cfull2 2006 TAC	3	12
	Cfull2 lowR2 lowR4 expl noAC_tripleR	5	60
2006 TAC	2006 0 2500 5000 2007 TAC)	3	180

80. SAG6

81. CCSBT-MP/0505/09 1 2000
2001 Cfull2
20% 2000
2000
2004 4

expl
7

82. 2000 2001

83. MP

7

steepness

steepness 2
steepness

84.
4

steepness

7 **7**

steepness 2000

85. 2003 2 3 4
4 1999

2001

2003 4 3
2001 LL1
2 OM
OM

86. 2
LL1 LL2
1999 LL2
LL1

87. SAG/SC CMP

MP TAC
MP

SAG/SC

88.

5.2

89. CCSBT-MP/0505/05
SC SC

SC

MP TAC

TAC

90.

MP MP

91. MP
CPUE

92. MP MP

8 9

5.3 SAG

93. 5.1 7

94.
SAG/SC

SAG MP

6.

6.1 MP

95. 4 CMP
CPUE
CCSBT MP
MP
MP
MP

96.

97. SAG6 / SC10 MP
MP
MP
SAG6 / SC10 MP

98. MP CCSBT
CPUE

CPUE
CPUE
MP CPUE
MP

99. MP 3 MP
TAC TAC
MP
SC
MP

100.
MP TAC
MP

6

101. SAG/SC

- 4 CMP
  TAC
- CMP
  CMP TAC
- CMP CMP OM

102. SAG6 / SC10

MP

6.2

103. MP

104. SC

SAG/SC

105. CCSBT-MP/0505/05 CCSBT
CCSBT-MP/0505/05
1
SAG6 / SC10
MP

8 9

106. MP SBT
MP

MP

MP

107. MP
OM
OM
MP
MP
SAG6 / SC10

6.3

108. CCSBT 管理手続き

SAG/SC

2008 MP 2006

TAC

	MP TAC 2008	**TAC 2006 2007**	
2006 2007 TAC		CCSBT12	
	CCSBT12	-	
MP	CCSBT12	-	
	CCSBT13	-	
MP TAC	SC11	-	
TAC	CCSBT13	-	
MP TAC	2007 10	-	

7.

109. SAG6

2004 **7**		6 15
CMP_4 k2 TAC 1 2		6 15
MP	MP	- MP4 - 6 15
MP	MP	6 30
MP cfull2 1.1 b MPWS4	MP	7 15
SAG		7 30
5 3 2006 TAC 3 SAG	MP	8 5
SAG MP 106		8 15
SAG		8 15
	MP	8 29
SAG		8 29

8.

8.1

110. 2

- SBT MP
  CMP
- SAG6 / SC10 MP MP

111.

112.

9.

113.

10.

114.

11.

115. 2005 5 21 6 55

1

2

3

4 4

5 MP

6 MP

7 2004

8 CCSBT

9 CCSBT

CCSBT

2005 16 21

1. 2005
   MP
2. MP
3.
4.
   SAG
5. MP

1.

2.

3.

3.1 2005 MP

4.

4.1 MP

4.2 MP

5.

5.1 MP

5.2

5.3 SAG

6.

6.1

6.2

7.

8

8.1
8.2 CCSBT
8.3

9.

10.

11.

2005 16-21

SAG

CSIRO
CSIRO
CSIRO
CSIRO

CSIRO

CCSBT

(MPWS)

(CCSBT-MP/0505/)

01. Draft Agenda of 4th MPWS
02. List of Participants of 4th MPWS
03. Draft List of Documents of 4th MPWS
04. (Australia) Further exploration and evaluation of the FXR_01 candidate management procedure rule under the new reference and robustness sets.: M. Basson, P. Eveson, J. Hartog, D. Kolody and T. Polacheck
05. (Australia) Metarules and Implementation: notes for discussion of the scientific issues.: M. Basson, T. Polacheck
06. (Japan) Results of a refined D&M Management Procedure applied to the Seattle 2005 Trials.: D.S. Butterworth & M. Mori
07. (Japan) Performance of the HK5 management procedure under the new operating models.: H. Kurota
08. (Taiwan) An evaluation of the TAI candidate management procedure rules for southern bluefin tuna based on the updated reference set and robustness trails.: Chin Hwa Sun
09. (Japan) Issues noted during the Management Development process in 2004/2005.: S. Tsuji, N. Takahashi and H. Kurota

(CCSBT-MP/0505/Rep)

01. Report of the Special Management Procedure Technical Meeting (February 2005)
02. Report of the Eleventh Annual Meeting of the Commission (October 2004)
03. Report of the Ninth Meeting of the Scientific Committee (September 2004)
04. Report of the Fifth Meeting of the Stock Assessment Group (September 2004)
05. Report of the Special Meeting of the Commission (April 2004)
06. Report of the Third Meeting of the Management Procedure Workshop (April 2004)
07. Report of the Eight Meeting of the Scientific Committee (September 2003)
08. Report of the Fourth Meeting of the Stock Assessment Group (August 2003)
09. Report of the Indonesian Catch Monitoring Review Workshop (April 2003)
10. Report of the Second Meeting of the Management Procedure Workshop (April 2003)
11. Report of the First Meeting of the Management Procedure Workshop (March 2002)

4

MP

b (2008) 1.1 C

						TAC	
D&M_02	Fox		2011	*w = 0.5*	2008	2011	*h; r*
D&M_03	Fox		2011	*w = 0.65*	2008	2011	*TAC h; r*
HK5_01	CPUE 4+	3	4 CPUE	*w = 0*		10%	*TAC*
HK5_02	CPUE 4+	3	4 CPUE	*w = 0*		25%	
TAI_05	CPUE 4+			*w = 0*			CCSBT-MP/ 0505/08 6 19
TAI_A4	CPUE 4+			*w = 0.85*			CCSBT-MP/ 0505/08 3 14 CPUE steepness TAC
CGF_01	Fox		4	*w = 0*	2015	TAC	
CGF_42	Fox		4	*w = 0*	2015 2015	TAC	

MP

2008 TAC 2006 9

1)

- MP
- 2005
- 2005 2005

2) 2008 TAC TAC_{2007}

- TAC_{2007} 2006 TAC_{2006}

3) 2008 TAC

-
  - 2007 12 1 2008 11 30
  - 2008 1 1 2008 12 31
  - 2008 1 1 2008 12 31
  - 2008 3 1 2009 2 28
  - 2008 3 1 2009 2 28
  - 2007 10 1 2008 9 30

2004

2004 SBT 2005

(1) 2004

(2) 2003/04 2003 7 2004 6

(3) 2004

-
- 2004 8 9

CCSBT

MP TAC

MP TAC

SAG/SC

SAG/SC

1.

SAG

MP

MP CPUE

3 SAG MP TAC

MP

SAG SAG

SC

SC SAG

SAG SAG

2.

SAG SAG

CPUE

TAC MP SAG

SC

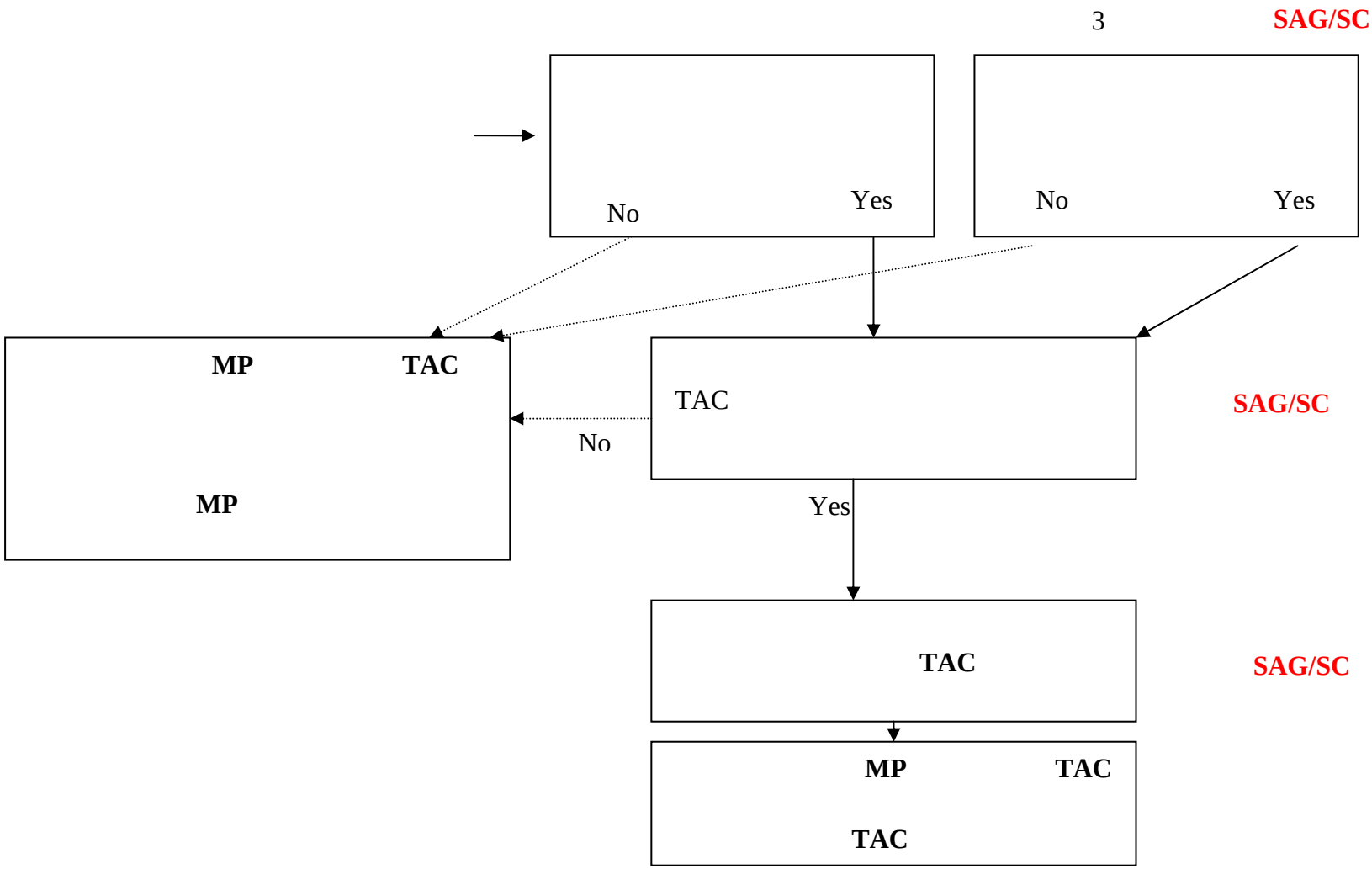
SC
SAG

SC

a) MP TAC
b) TAC x%

a) MP TAC
b) TAC x%

1:


3
SAG/SC
No
Yes
No
Yes
MP
TAC
MP
TAC
No
SAG/SC
Yes
TAC
SAG/SC
MP
TAC
TAC

CCSBT

MP

MP

SAG/SC

MP

1.

SAG

MP

3 SAG

MP

MP

MP

MP 9 SAG

MP

MP

SAG MP

SAG

2 3

SC MP

SC MP

SAG MP

SAG

SC MP

SC

SAG SC SAG

MP

SC

3