Implications of adding an extra annual 170 MT Interim Relief catch for the output of the West Coast Rock Lobster OMP 2007 re-cast

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Introduction

The current OMP used to set TACs for the West Coast Rock Lobster resource is called "OMP 2007 re-cast". Results from stochastic simulations predict that this OMP is expected to produce (in median terms) a total exploitable biomass increase of 20% by 2016 compared with that at the start of 2006. This amounts to no more than restoring the biomass to its level in 1996 when OMP-based management commenced. The 10-year average annual commercial TAC is predicted to be 2312 MT. "OMP 2007 re-cast" does not take any interim relief catches into account. The full set of stochastic results for "OMP 2007 re-cast" was reported in Johnston and Butterworth (2008) and is reproduced here in Table 1.

Since the 2006/07 season, the Minister has made allowance for an extra catch tonnage (above that calculated by the OMP) to be used as Interim Relief (IR) for west coast fishers. This amount is estimated to have totalled some 170 MT per year. This document reports results of stochastic simulations carried out using OMP 2007 re-cast, but with an additional 170 MT added each year from 2008 onwards.

Using information in Keulder (2009) and reproduced here in Table 1, the 170 MT IR catch is assumed to be split across the super-areas as follows:

Area 1&2:	3.34 % = 6 MT
Area 3&4:	20.69 % = 35 MT
Area 5&6:	24.64% = 42 MT
Area 7:	0% = 0 MT
Area 8+:	51.32% = 87 MT

Fishing mortality associated with the IR relief catches is calculated assuming hoopnet selectivity and the minimum legal carapace length that is assumed for recreationals (80mm CL).

Results

Table 2 compares the expected outcomes of OMP 2007 re-cast as currently implemented (with no IR catch) with results where 170 MT IR is added each year. Note that the IR catch is not included as part of the commercial TAC (nearshore or offshore), nor recreational allocation, but is treated as a separate take.

Conculsions

Results in Table 2 show that the additional IR take has negligible impact on the likely TACs for either sectors, and primarily affects the extent of resource recovery. This would be some 8% less by 2016 than the OMP's intended target. Super-areas A1-2 and A8 would be worst impacted, with both showing increased declines.

While this may seem a small effect, it should be noted that although there is disagreement about the details, there is consensus that the west coast rock lobster resource is heavily reduced (as a result of harvesting) compared to its level a century ago. Universally policy in these circumstances would be to promote some resource recovery. In practice OMP 2007 re-cast opts for the lowest extreme of the policy options in these circumstances: over 20 years to keep the resource at the same level (in median terms) as when OMP-based management commenced in 1996. To deliberately opt for a policy intended to reduce abundance in circumstances of a heavily depleted resource is an approach which is likely to result in strong external criticism.

References

Johnston, S.J. and D.S. Butterworth. 2008. OMP 2007 re-cast results for West Coast rock lobster. MCM document, MCM/2008/JUL/SWG-WCRL/06.

Keulder, F. 2009. Estimated WCRL catch for Interim relief phases II and III. MCM document MCM/2009/AUG/SWG/WCRL/16.

Table 1: Areal breakdown of interim relief catches (from Keulder 2009).

Zone	Area	Catch (MT)	phase II % of T	phase II Catch (MT)	% of T	ave %	**IR (MT)**
A	1 & 2	4356	2.51	7040	4.17	3.34	**6**
B	3 & 4	33814	19.47	36960	21.92	20.69	**35**
C	5 & 6	41272	23.77	43010	25.51	24.64	**42**
D	(7)&8	29946	17.24	36590	21.70	19.47	**33**
E	8+	8169	4.70	5227	3.10	3.90	**7**
F	8+	56100	32.31	39800	23.60	27.95	**87**
Total		173657	100.00	168627	100.00	100.00	**170**

We thus assume 0 MT IR catch for Area 7, and 87 MT for Area 8.

Table 2: Median and 5th and 95th percentile values are for the full stochastic integration over the Reference Set. Results are compared between the OMP 2007 re-cast assuming no IR catch and IR catch of 170 MT. B_m refers to male biomass above 75mm CL.

		OMP 2007 Re-cast (no IR)	**OMP 2007 Re-cast with 170 MT IR**
10-yr Ave commercial TAC	A1-2	28 [25; 33]	28 [25; 33]
	A3-4	178 [144; 222]	181 [146; 225]
	A5-6	37 [33; 43]	37 [33; 43]
	A7	713 [598; 876]	720 [606; 904]
	A8	1363 [1196; 1611]	1372 [1197; 1622]
	T	2312 [2048; 2763]	2334 [2069; 2773]
2007-2009 Ave commercial TAC	T	2074 [2021; 2229]	2089 [2021; 2229]
10-yr Ave near shore TAC	A1-2	28 [25; 33]	28 [25; 33]
	A3-4	83 [74; 98]	83 [75; 97]
	A5-6	37 [33; 43]	37 [33; 43]
	A7	0 [0; 0]	0 [0; 0]
	A8	369 [328; 435]	371 [332; 434]
	T	517[460; 609]	519 [465; 608]
10-yr Ave offshore TAC	A1-2	0 [0; 0]	0 [0; 0]
	A3-4	95 [67; 130]	97 [69; 131]
	A5-6	0 [0; 0]	0 [0; 0]
	A7	713 [598; 876]	720 [606; 904]
	A8	994 [865; 1195]	1000 [864; 1194]
	T	1796 [1586; 2160]	1822 [1601; 2169]
Ave Total Recreational Take	T	268 [227; 309]	268 [227; 309]
Ave Total Interim relief take	T	0 [0; 0]	170 [170; 170]
B_m(16/06)	A1-2	0.85 [0.54; 1.37]	0.73 [0.44; 1.26]
	A3-4	1.09 [0.62; 2.58]	1.01 [0.56; 2.52]
	A5-6	1.76 [0.62; 11.31]	1.57 [0.46; 11.08]
	A7	1.12 [0.34; 3.06]	1.08 [0.32; 3.05]
	A8	0.93 [0.28; 2.76]	0.78 [0.17; 2.64]
	T	1.20 [0.55; 2.96]	1.10 [0.47; 2.85]
B_m(16/80)	A1-2	0.26 [0.17; 0.44]	0.23 [0.14; 0.40]
	A3-4	0.74 [0.42; 1.80]	0.69 [0.38; 1.75]
	A5-6	0.38 [0.13; 2.45]	0.34 [0.10; 2.40]
	A7	0.47 [0.14; 1.33]	0.46 [0.13; 1.32]
	A8	1.05 [0.32; 3.17]	0.89 [0.19; 3.04]
	T	0.69 [0.31; 1.74]	0.64 [0.27; 1.68]
B_m(16/1910)	A1-2	0.01 [0.01; 0.02]	0.01 [0.01; 0.02]
	A3-4	0.04 [0.02; 0.09]	0.03 [0.02; 0.09]
	A5-6	0.02 [0.01; 0.15]	0.02 [0.01; 0.15]
	A7	0.02 [0.01; 0.06]	0.02 [0.01; 0.06]
	A8	0.05 [0.02; 0.16]	0.05 [0.01; 0.16]
	T	0.04 [0.02; 0.09]	0.03 [0.01; 0.09]