

Annex G

Updated table of abundance estimates

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The Workshop's recommendation on acceptance of the abundance estimates for use in the current *Implementation Simulation Trials* are reflected in the final two columns of the table below in the form of yes/no agreement/no, followed by a brief rationale for any disagreement. NA=No agreement. It was agreed that the two 'no agreement' estimates would not be used in the current trials - see main text (Item 2.2). The notation '*' indicates that further analysis needs to be considered for an estimate to become acceptable for use in a real application.

Sub-area	Year	Season	Aerial coverage (%)	STD estimate ¹	CV ²	Current conditioning	Used in 2003 trials?	Use in current trials?	Rationale and notes
5	2001	Apr.-May	13.0	1,534	0.523	Minimum	-	Yes*	Low area coverage. Only area completed. Needs further analysis.
	2004	Apr.-May	13.0	799	0.321	Minimum	-	Yes*	Low area coverage. Only area completed. Needs further analysis.
	2008	Apr.-May	13.0	680	0.372	Minimum	-	Yes*	Low area coverage. Only area completed. Needs further analysis.
	2011	Apr.-May					-	Yes*	Only area completed. Needs further analysis.
6W	2000	Apr.-May	14.3	549	0.419	Minimum	-	Yes*	Low area coverage. Use inshore segment only with adjustment for differential extent of inshore coverage (no extrapolation).
	2002	Apr.-May	14.3	391	0.614	Minimum	-	Yes*	As above
	2003	Apr.-May	14.3	485	0.343	Minimum	-	Yes*	As above
	2005	Apr.-May	14.3	336	0.317	Minimum	-	Yes*	As above
	2006	Apr.-May	14.3	459	0.516	Minimum	-	Yes*	As above
	2007	Apr.-May	14.3	574	0.437	Minimum	-	Yes*	As above
	2009	Apr.-May	14.3	884	0.286	Minimum	-	Yes*	As above
	2010	Apr.-May	14.3	1,014	0.397	No	-	Yes*	As above
6E	2002	May-Jun.	79.1	891	0.608	Yes	-	Yes*	Poor coverage and analysis difficulties. Poor availability. Only use northern part. Original estimate was based only on northern part.
	2003	May-Jun.	79.1	935	0.357	Yes	-	Yes	
	2004	May-Jun.	79.1	727	0.372	Yes	-	Yes	(Incomplete coverage). Only N offshore block used.
10W	2006	May-Jun.	59.9	2,476	0.312	Yes	-	Yes	
10E	2002	May-Jun.	100.0	816	0.658	Yes	-	Yes	61% of pre-determined track line was covered on effort and is sufficient to retain the estimate.
	2003	May-Jun.	100.0	405	0.566	Yes	-	Yes	
	2004	May-Jun.	100.0	474	0.537	Yes	-	NA*	Design question: (most sightings in concentration near coast).
	2005	May-Jun.	64.6	599	0.441	Yes	-	Yes	In 2005, survey blocks were surveyed twice. In order to avoid double counting the abundance was estimated using 2 nd part and only in offshore block. (Number of primary sightings: 1 st part : one over 387n.miles, 2 nd part: nine over 842n.miles). The estimate was re-calculated using 2 nd part and only in offshore block. Area, <i>n</i> and <i>L</i> were re-calculated; ESW and <i>S</i> were the same as for the whole area.
7CS	1991	Aug.-Sep.	-	0	-	2003 only	Yes	Yes*	See Annex F for details of how the original estimate for subarea 7W was split to subarea (prorated by <i>nA/L</i> from the total estimate)
	2004	May	36.7	504	0.291	Yes	-	Yes*	Use northern part only. Res.: <i>n</i> , <i>L</i> and Area were recalculated for the northern part only; the estimates of ESW and <i>s</i> used were from the whole area.
	2006	Jun.-Jul.	100.0	3,690	1.199	Yes	-	Yes*	Analysis for non-random start. Note different survey timings.
	2012	May-Jun.	100.0	890	0.393	No	-	Yes*	See Item 2.2 above, and SC/M13/NPM3.

Cont.

Sub-area	Year	Season	Aerial coverage (%)	STD estimate ¹	CV ²	Current conditioning	Used in 2003 trials?	Use in current trials?	Rationale and notes
7CN	1991	Aug.-Sep.	-	853	0.23	2003 only	Yes	Yes*	See Annex F for details of how the original estimate for subarea 7W was split to subarea (prorated by <i>nA/L</i> from the total estimate). Inadequate and heterogeneous coverage. See Item 2.2 above and SC/M13/NPM3.
	2003	May	75.4	184	0.805	Yes	-	NA*	
	2012	May-Jun. Sep.	66.7 66.7	302 398	0.454 0.507	No No	- -	(Yes*) ³ Yes*	
7WR	1991	Aug.-Sep.	-	311	0.23	2003 only	Yes	Yes*	See Annex F for details of how the original estimate for subarea 7W was split to subarea (prorated by <i>nA/L</i> from the total estimate). Low area coverage. Estimate recalculated for northern portion only. With analysis for non-random starts.
	2003	May-Jun.	26.7	267	0.700	Min	-	Yes*	
	2004	May-Jun.	88.8	863	0.648	Yes	-	Yes	
	2007	Jun.-Jul.	88.8	546	0.953	Yes	-	Yes*	
7E	1990	Aug.-Sep.		791	1.848	2003 only	Yes	No	CV too high to be meaningful.
	2004	May-Jun.	57.1	440	0.779	Yes	-	Yes	
	2006	May-Jun.	57.1	247	0.892	Yes	-	Yes	
	2007	Jun.-Jul.	57.1	0		Yes ⁴	-	Yes*	
8	1990	Aug.-Sep.	62.2	1,057	0.706	Yes	Yes	Yes	Agreed in 2003. In other years, no whales observed in area not covered. Note different survey timings. In other years, no whales observed in area not covered. With analysis: non-random start; no planned coverage in upper left (Russian EEZ), two sets of lines in lower blocks.
	2002	Jun.-Jul.	65.0	0		Yes	-	Yes	
	2004	Jun.	40.5	1,093	0.576	Yes	-	Yes	
	2005	May-Jul.	65.0	132	1.047	Yes	-	Yes*	
	2006	May-Jul.	65.0	309	0.677	Yes	-	Yes	
9	2007	Jun.-Jul.	65.0	391	1.013	Yes ⁴	-	Yes*	With analysis: non-random start; no planned coverage in upper left (Russian EEZ).
	9	1990	Aug.-Sep.	35.1	8,264	0.396	Yes	Yes	Yes
9N	2003	Jul.-Sep.	33.2	2,546	0.276	Minimum	-	Yes	Survey not co-incident with density peak in Aug.-Sep.
	9N	2005	Aug.-Sep.	67.8	420	0.969	Yes	-	(Yes)
11	1990	Aug.-Sep.	100.0	2,120	0.449	Yes	Yes	Yes	Agreed in 2003. Agreed in 2003. *Check map to make sure. Potentially biased due to weather induced coverage omission to north. Agreed: not acceptable to include coastal transect in analysis. Confirmed: estimate refers only to surveyed part of subarea and excludes transit legs. Low area coverage. Estimate was confirmed to have come from transect lines only.
	1999	Aug.-Sep.	100.0	1,456	0.565	Yes	Yes	Yes	
	2003	Aug.-Sep.	33.9	882	0.820	Yes	-	Yes*	
	2007	Aug.-Sep.	20.2	377	0.389	Minimum	-	Yes*	
12SW	1990	Aug.-Sep.	100.0	5,244	0.806	Yes	Yes	Yes*	Agreed in 2003. Low area coverage. Confirmed: estimate refers only to part of sub-area with had adequate coverage.
	2003	Aug.-Sep.	100.0	3,401	0.409	Yes	-	Yes*	
12NE	1990	Aug.-Sep.	100.0	10,397	0.364	Yes	Yes	Yes*	Agreed in 2003. Agreed in 2003. Year wrong in IWC (2012). Omit E block – inadequate coverage. Limit N block to area surveyed. Estimate recalculated using only those parts of the various strata which had been covered effectively. Agreed: 2 blocks should be omitted due to inadequate coverage. Question concerning coverage in the other 3 blocks (2 NW and one E). Confirmed: the estimate is based on the 3 blocks with adequate survey coverage and for the Northernmost block includes only the area covered by completed transects.
	1992	Aug.-Sep.	89.4	11,544	0.380	2003 only	Yes	Yes*	
	1999	Aug.-Sep.	63.8	5,088	0.377	Yes	-	Yes*	
	2003	Aug.-Sep.	46.0	13,067	0.287	Yes	-	Yes*	

¹The Standard (STD) estimate based on 'Top and Upper bridge' will be used as given in the catch limit calculations (when conditioning the estimates are adjusted for *g(0)*). ²CV does not consider any process errors. ³This estimate was agreed to be suitable for use in trials but will not be used in the current trials as the September estimate (which has the correct formal time stamp for RMP input) will be used instead. ⁴For conditioning, the estimate of 0 from sub-area 7E was combined with the estimate of 391 from sub-area 8. ⁵International Whaling Commission. 2012. Report of the first RMP intersessional workshop for western North Pacific common minke whales. *J. Cetacean Res. Manage. (Suppl.)* 13:411-60.