

Table 1. Corrected formula errors in the DOC ON & OFF survey excel reporting forms

On Survey Workbook			
Worksheet	Cell #	Formula Error	Corrected Formula
On Survey Summary	P2002	=SUMIF(M2:M881,"NA",H2:H881)	=SUMIF(M2:M1989,"NA",H2:H1989)
On Survey Summary	P2006	=SUMIF(I2:I881,"dr",H2:H881)	=SUMIF(I2:I1989,"dr",H2:H1989)
On Survey Summary	P2012	=SUMIF(J2:J881,"fo",H2:H881)	=SUMIF(J2:J1989,"fo",H2:H1989)
On Survey Summary	R2017	=SUMIF(N2:N1989,"PAM only",H2:H881)	=SUMIF(N2:N1989,"PAM only",H2:H1989)
On Survey Summary	P2024	=SUMIF(K2:K881,"4",H2:H881)	=SUMIF(K2:K1989,"4",H2:H1989)
On Survey Summary	N2019	=(N2018*100)/#REF!	=(N2018*100)/T2018
On Survey Summary	Q2019	=(Q2018*100)/U2018	=(Q2018*100)/T2018
On Survey Summary	D552	='On Survey Effort'!#REF!	Previously corrected?
On Survey Summary	D551	='On Survey Effort'!A556	Previously corrected?
Off Survey Workbook			
Off Survey Summary	P2002	=SUMIF(M2:M881,"NA",H2:H881)	=SUMIF(M2:M1989,"NA",H2:H1989)
Off Survey Summary	P2006	=SUMIF(I2:I881,"dr",H2:H881)	=SUMIF(I2:I1989,"dr",H2:H1989)
Off Survey Summary	P2012	=SUMIF(J2:J881,"fo",H2:H881)	=SUMIF(J2:J1989,"fo",H2:H1989)
Off Survey Summary	R2017	=SUMIF(N2:N1989,"PAM only",H2:H881)	=SUMIF(N2:N1989,"PAM only",H2:H1989)
Off Survey Summary	P2024	=SUMIF(K2:K881,"4",H2:H881)	=SUMIF(K2:K1989,"4",H2:H1989)
Off Survey Summary	N2019	=(N2018*100)/#REF!	=(N2018*100)/T2018
Off Survey Summary	Q2019	=(Q2018*100)/U2018	=(Q2018*100)/T2018

Reference: DOC, 2016 'Preliminary Analysis of Marine Observer data from New Zealand seismic surveys'.

Table 2. Additions & Alterations, both workbooks.

On & Off Survey Workbooks			
Worksheet	Cell(s) #	Addition or Alteration	Reason
On/Off Survey Summary	K2024 to K2043	Added basic check of effort category entries against total effort from cell E1994 of On/Off Survey Effort worksheet	Observers can miss out an effort category entry (e.g. swell, visibility etc.) when inserting a line of effort, affecting the related total duration in the effort tables. Cutting and pasting effort entries can also have this effect.
On/Off Survey Effort	Q2	Added total duration from error checks (in cell K2044 of the On/Off Survey Summary) to cell Q2 of the O/Off Survey Effort worksheet. Total in cell Q2 of On/Off Survey Effort worksheet should be 00:00. If it is higher than 00:00, cell formatting will change to red and display the corresponding duration (hh:mm) that the effort entry is incorrect by.	As above. The error-check alert has been added to the On/Off Survey Effort worksheets so observers can see immediately if there is a problem with a full line of effort that has just been entered. Observers can be taught to use the totals in the O/Off Survey Summary for error-checking, but often miss this step, meaning that additional effort lines may be added to a datasheet before an error is noticed.
On/Off Survey Effort	Column B	Increased column width for Line Number (On Survey) and General Area (Off Survey)	The column for Line Number has been invariably too narrow to display a full line number – meaning that observers cannot check that a number of line number entries is correct, without scrolling through each individual cell. The corresponding column in the Off Survey form has been increased to the same width.
On/Off Survey Effort	Column O	Increased column width for Comments.	The column for Comments was far too narrow for one to view entered text - only allowing about 11 characters (incl. spaces). This meant that observers could not check previous comments, without scrolling through each individual cell. Although there is always going to have to be some tradeoff in terms of column width, 11 characters was far too little to be useful to observers.
Covering Sheet	F28 to F30	Data validation changed to allow 'Distance to outer door' entries greater than 1000 (upper limit has been increased to 2000). However, the upper limit may not be necessary anyway.	Observer could not enter a 'Distance to outer door' if it was greater than 1000m, meaning that this data had to be left out of the relevant cell on the Covering Sheet.

<p>Covering Sheet</p>	<p>E36 to E39</p>	<p>Data validation removed.</p>	<p>Due to data validation rules in the relevant cells, PAM operators could only partially enter some of the required information. An example of this would be 'Hydrophone bandwidth: (Hz - kHz) - currently, only one set of figures can be entered, not a range (i.e. one can enter the lower or the upper limit of a range, but not both</p>
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