

**From:** van Manen, Frank  
**To:** [Fortin-Noreus, Jennifer](#); [Daniel Thompson](#); [Mark A Haroldson](#)  
**Subject:** Suggested graph for figure 3.  
**Date:** Wednesday, July 20, 2016 1:36:28 PM  
**Attachments:** [Raw FCOY and Chao2 inDMA 1983-2015.xls](#)

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Jennifer and Dan,

Mark and I discussed what graph would be most appropriate for Fig. 3. I suggest you consider the graph in the attached excel file with model-average chao2 and the raw, annual Chao2 counts (the line graph, not the bar graph). This is the only way to accurately reflect our monitoring and what we have reported in annual reports. A few points, several of which will need to be in the caption:

- Data are anchored at 1983

- The year 2015 can be removed if you want to end it at 2014; this would not affect the earlier-year estimates

- IGBST started applying model-averaging in 2007; years prior to 2007 were model-averaged once (hence the smooth line from 1983-2007)

- The annual variation starting in 2008 is due to 2 factors:

- 1) After 2007, we annually updated the model-averaged estimates based on entire time series (but we did not retroactively apply the estimates back to 1983 each year)
- 2) DMA-only applies to years 2012 on

Again, this accurately reflects how IGBST has monitored the population and how we have evaluated recovery criteria 1.

Let me know if you have any questions....

Frank