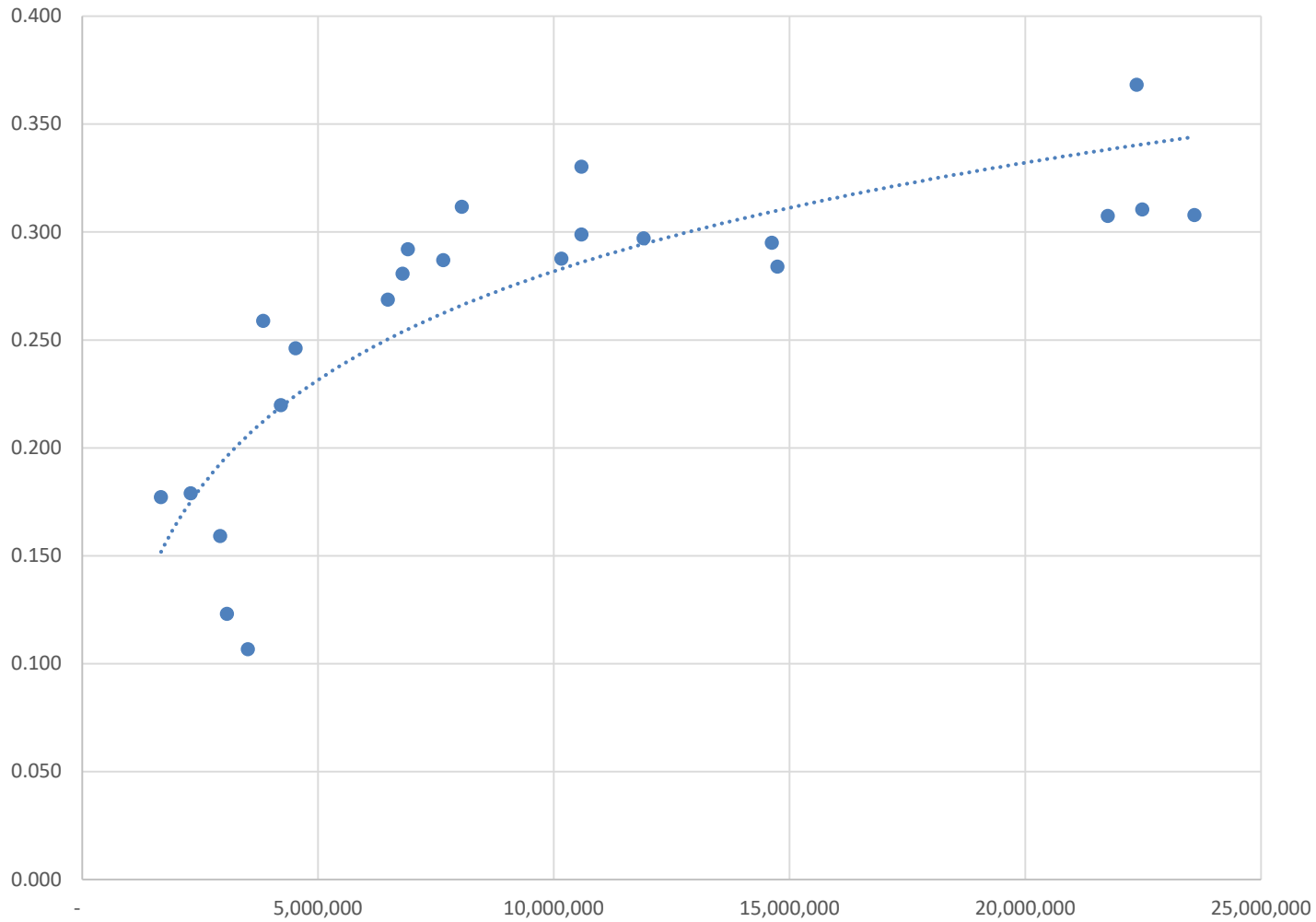
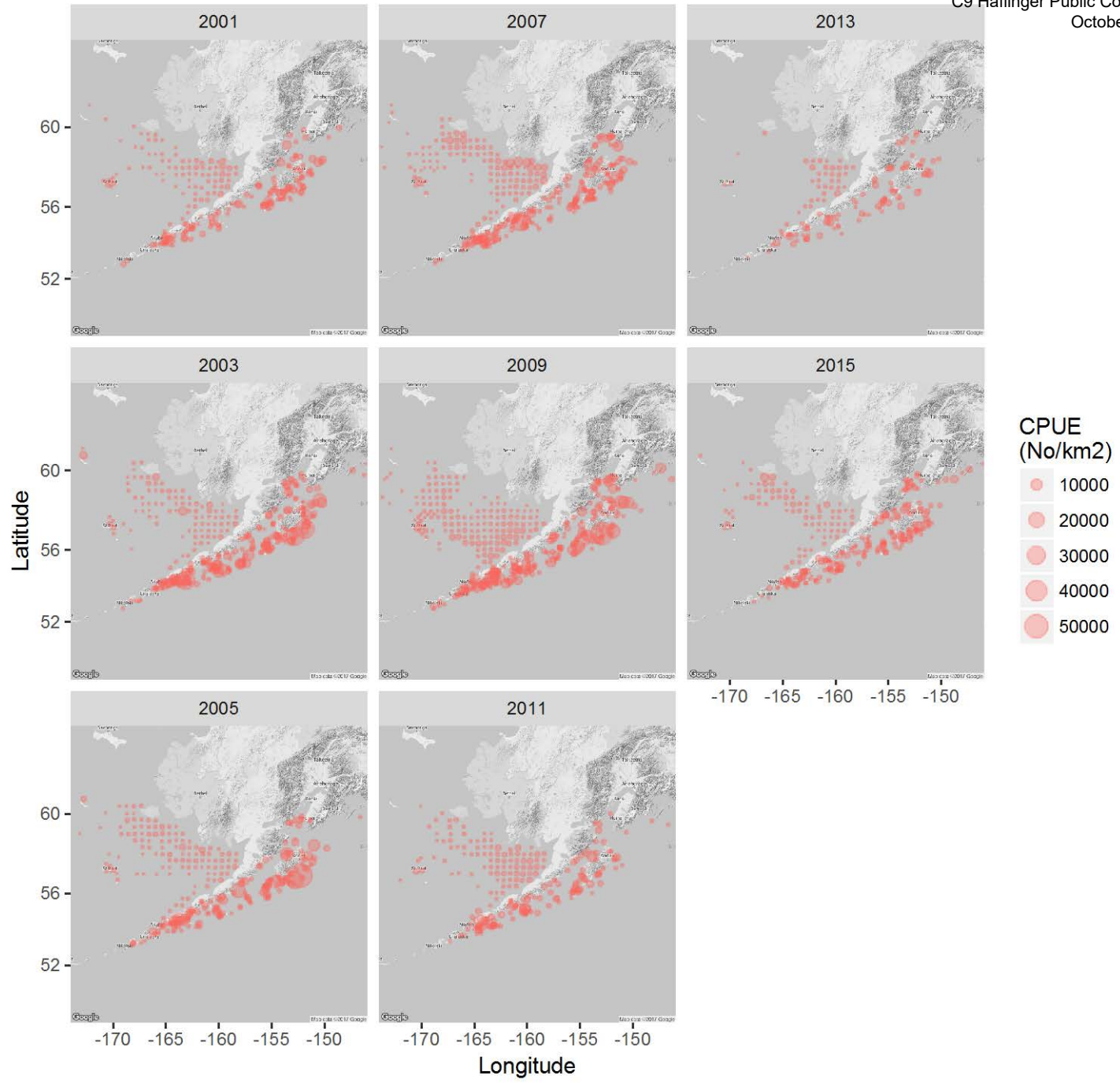


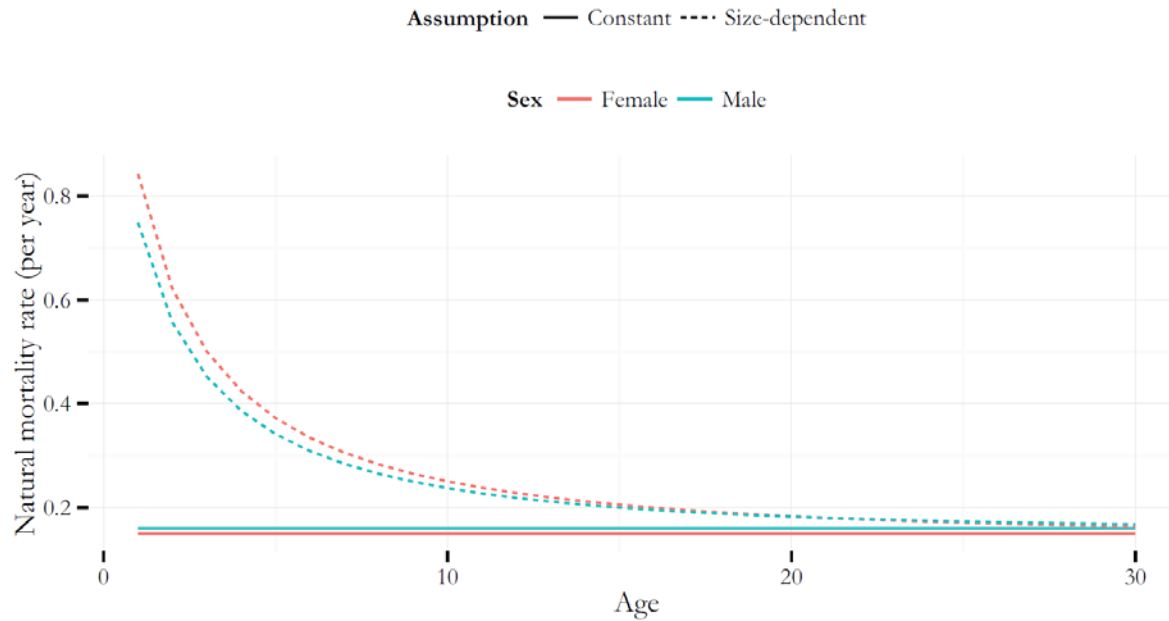
Z (F + M + E) vs age 4 cohort size from the BSAI trawl survey, 1983 - 2005, using IPHC global age-length key



# Halibut Abundance (0-300mm)

C9 Haflinger Public Comment  
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**Figure 14. Example of a age-dependent natural mortality rate for male and female. Based on a constant natural mortality rate, the pound for pound impacts of bycatch on commercial yield is 1:0.74. In contrast with size-dependent natural mortality, the pound for pound impact is 1:0.39.**

From Martell, Stewart and Wor: Exploring index-based PSC limits for Pacific halibut

## Recommendations:

- Include information on the historical variation in year class contributions to both survey and bycatch (by sector), especially if considering alternatives with different caps for different size intervals, or ratios between size intervals.
- Update footprint analysis, or develop other approaches to modeling the yield lost to bycatch, using survey information to calculate impact rates (F due to bycatch).
- Use both GOA and BS shelf trawl survey data to investigate potential for size- and density-dependent mortality rates.