The original analysis titled "Development of generalized discard mortality rates reflecting the use of descending devices for rockfishes of the genus Sebastes" was reviewed during the September 2022 meeting of the Science and Statistical Committee (SSC) meeting. The authors have considered all suggestions by the SSC when revising the analysis and manuscript. A detailed response to each comment from the September review is provided below.

Comment 1
The "confidence intervals" reported in the document (Development of Generalized Discard Mortality Rates Reflecting the Use of Descending Devices for Rockfishes of the Genus Sebastes) are quantiles of the posterior predicted distribution. The distributions are skewed with flat long tails. The final report should clearly communicate the reasoning that would lead to the choice of different quantiles based on different levels of risk tolerance, and the SSC should review this description carefully.

Response to Comment 1
Updated language to use percentiles rather than confidence intervals since these quantities were calculated based on the posterior predicted distributions and language was added to explain the definition of percentiles.

Comment 2
Some of the uncertainty issues (multi-modal posteriors, lots of density at the extremes) come from the prior they use for η. Using a Gamma ($\alpha=1$, $\beta=0.1$) prior for η is comparable to saying the prior has ~7 to 10 species of information in it. If a less informative prior is desired, one should use something like a Gamma ($\alpha=0.01$, $\beta=0.01$). Also, the authors should write down which parameterization of the gamma distribution is being used.

Response to Comment 2
The hyper-prior for η was updated to be an uninformative Gamma distribution ($\alpha=0.01$, $\beta=0.01$). This revision had a limited impact on the posterior predicted distributions from the Bayesian hierarchical model. The 50th and 60th percentile estimates were generally similar to the estimates using the more informed prior. The change in the prior had the largest impact on the estimates from the tails (80th and 90th percentiles). The parameterization of the gamma distribution is shown in equations 7 and 8.

Comment 3
The model only produces estimates of short-term mortality when using descending devices. Long-term mortality and other unaccounted mortality are estimated external to the model and their uncertainties are not propagated through the analysis. Analysts should explore estimating long-term mortality within the model using data from the Wegner et al. 2021 publication.

Response to Comment 3
There was general confusion around the long-term and unaccounted mortality values. The approach in the updated analysis has been simplified where cumulative mortality is set equal to a selected percentile (Council selected the percentile in 2014) from the posterior prediction distribution from the Bayesian hierarchical model. All available observations, across observation times ranging between 0 - 300+ days, from the four studies were used to inform estimates by the Bayesian hierarchical model.

Comment 4
Guild assignments are based on published literature and survey observations. For example, adult bocaccio are often observed 5 - 11 fathoms off the bottom at acoustic tagging study sites. The Pelagic guild has fewer observations, especially in deeper depth bins.

Response to Comment 4
Bocaccio have been moved to the demersal guild in the updated analysis.

Comment 5
If the concerns with guild assignments can be addressed, there is some support for using guild-specific discard mortality rates rather than species-specific estimates in cases with small sample sizes. A power analysis may be helpful in this evaluation.

Response to Comment 5
A power analysis was done comparing the species-specific quantiles to the corresponding quantiles from the unobserved species to determine if the estimates were statistically significantly different (power greater than or equal to 0.80) given the sample sizes. Additionally, the species-specific cumulative density functions were compared to the cumulative density from the unobserved species using a Kolmogorov-Smirnov test.

Comment 6
Size of the released fish will likely affect discard mortality rates. But size data availability has not been investigated.

Response to Comment 6
Individual fish lengths were not available for all studies included in this analysis. However, the studies that did report summary statistics around the size of fish capture showed a range of lengths that were generally limited length for species, likely due to hook and line gear selection.

Comment 7
The report needs more detailed descriptions of data treatment and model structure, especially when data were from multiple studies using different depth bins. Mapping between data and model structure is desired in the report.

Response to Comment 7
Tables 1-3 show the available data by species from each of the studies and Table 5 reflects the available data by species and guild used in the Bayesian hierarchical model.