1. Target Strength & Frequency Response.
   1. Different TS used, so standardize if we can for a species.
   2. Targeted studies – Spend a few days to target. Existing target sets. More Collaboration.
   3. Acoustic Library development.
   4. Whenever a boat is out collect acoustic data.
2. Data sharing and processed data.
   1. Get RAW data but not processed data.
   2. Need a standard template for preprocessing.
   3. Export all lines, regions, basic EV files.
   4. Need an Acoustic workshop.
3. What about existing processing
   1. Acoustic Review and export and then review.
4. Spatial-Temporal changes.
   1. Try to match up with auillary data set (predation, habitat changes, food).
5. Using Variance estimates from geostatistics or parallel equidistant surveys incorrectly??
   1. Workshop or Tech paper on best practices for variance estimates for acoustics.
6. Species ID – Is your estimate true?
   1. Develop methodologies to validate and allow for target classification.
   2. Adding complementary tools to inform Species ID.
7. Acoustic Editors (big concern) - changes
   1. Some judgement. Experience with system
   2. New people do blind and reference. (follow methodology for otolith QCs)
   3. Do full review of the data if possible.
   4. To remove subjectivity use Machine-Learning. (even if baised, at least consistent).

6B) Reader biases due to perceived changes in populations (near zero so super scrutiny). (bigger issue if species ID).

1. Changes in Equipment.
   1. Assign changes in q? in assessment?
2. Survey Monitoring in general
   1. Need good understanding of the ecosystem
   2. Need good understanding the biological of the fish of interest.
   3. Diet program.
   4. Adding complementary tools to existing surveys. (possible and plausible and has an end goal).
   5. Adding more information on zooplankton and habitat.
3. Vessel avoidance
4. Lack of dedicated diet programs – Predators diets (herring diets too!).
5. Establishing a small pelagics/acoustics working group. (Funds, Unwillingness to dedicate staff time)
   1. First steps is to develop and co-lead research projects
   2. Create opportunities of workshops (online and through TESA).
   3. Have dedicated meeting times. (virtual “cocktail hour” few times of year)