1. Introduction
   1. Paragraph 1
      1. Managers and conservation biologists increasingly appreciate that interactions between species matter.
      2. A gap in the integration of these connections into fisheries management plans and the policies of harvested ecosystems is the understanding of the strength of these interactions and how they vary in space and time.
      3. Many management plans focus on a single species (K. Marshal review Con. Letters) but see Plagyani on Models of Intermediate Complexity
   2. Paragraph 2
      1. Single-species approaches are not without their own embedded complexity, including a detailed focus on age and size structure in harvested populations. And we know that this size structure can alter population dynamics and have consequences for the yield of harvested species.
      2. However, we have yet to adequately integrate size structure of multiple interacting species.
      3. We know from the ecological literature is that similar variation age and size structure can alter the strength of spp. interactions.
      4. Comprehensive integration of species interaction in management plans requires an in depth understanding of how variation in age/size structure across multiple interconnected spp alters the ecosystem dynamics and the stability of interacting species.
   3. Paragraph 3
      1. The classic method of estimating the interaction strength between two species is by empirically estimating the functional response, or the per capita consumption of prey.
      2. The shape of the functional response can vary depending on many factors, but there is an abundance of evidence that predator and prey size can dramatically alter the attack rate and the handling time.
      3. This matters because size dependency in the functional response can have cascading effects on the stability and dyanics of predator-prey systems.
   4. Paragraph 4
      1. We explored how size structure influences the functional response between lobsters, a harvested species of economic importance to S. California, and one of their prey items, purple urchins.
      2. Understanding the dynamics of lobster urchin interactions is really important due to potential top down control of kelp forest systems.
      3. *Bring it back around to incorporating size structure into EBM models*
2. Methods
3. Results
   1. Figure 1. Frequency distributions of lobsters and purple urchins
   2. Figure 2. Map of size structure (?)
   3. Figure 3. Two panel plot, where panel A has attack rate on the y axis, pred size categories on the x, and points for the estimated attack rate +/- CI for each prey size category. Panel B should be handling time.
   4. Supplemental fig 1. 3 panel plot of raw data and fits
   5. Explore what a three-dimensional plot with pred size (x), prey size (y), and parameter of interest (i.e. a or h) on the z would look like. Is there a better way of fitting the curves?
4. Discussion
   1. How does it fit into the ecological literature?
   2. How does it fit with our understanding of trophic interactions?
   3. What are the management consequences?