

Presentation 2 (oral; T. Sutton presenting):

Trophic structure over the northern Mid-Atlantic Ridge: the bathypelagic zone really matters

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We present preliminary results and ongoing efforts to characterize the trophic structure and energy flow of the pelagic ecosystems of the northern Mid-Atlantic Ridge (MAR), from Iceland to the Azores. This study is one component of the international CoML field project MAR-ECO (www.mar-eco.no). We found a diverse deep-pelagic fish fauna (205 spp.), with unexpectedly high bathypelagic fish biomass and spatial complexity. Based on literature reports of species present, crustacean planktivory is the dominant trophic guild (79% of individuals 47% of species), primarily within the mesopelagial. "Gelativory" was second (12% ind., 4% spp.), primarily within the bathypelagial. Omnivory (3%, 13%), "shrimpivory" (2%, 4%), and piscivory (1%, 21%) were the remaining major feeding guilds. The diets of 22 spp., primarily bathypelagic, are unknown. A spatially explicit food web model revealed that of 12 fish assemblages discriminated by multivariate analysis, only three accounted for more than 4% of total fish consumption. The most striking finding was that along much of the MAR, fish consumption in the bathypelagic equals or exceeds the epi- and mesopelagic. Further, "alternate" trophic pathways (gelatinous zooplankton and shrimp consumption) appear to be major energy vectors in the deep North Atlantic. This abstract does not necessarily reflect USEPA policy..