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Shark Assemblage Structure in the Chesapeake Bight

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0531 Poster Session I, Exhibit Hall D, Friday 9 July 2010

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Shark Assemblage Structure in the Chesapeake Bight

The role and importance of the Chesapeake Bight region as essential fish habitat for several species of sharks is well represented in primary literature and US fisheries management plans. Diverse assemblages of shark taxa utilize the Chesapeake Bay and adjacent coasts at various stages throughout their lives. As top predators in most of the environments where they occur, sharks are key to maintaining healthy, diverse ecosystems. The estuarine waters of the Chesapeake Bay are exposed to extreme ranges in temperature and salinity, and consequently the environmental suitability of the Bay is spatially and temporally restricted to select taxa. By identifying shark assemblages in the Chesapeake Bight region we aim to: 1) provide spatial and temporal profiles of assemblage structures, 2) identify environmental factors that influence assemblage composition, and 3) provide a tool for measuring the effects of climate change on highly migratory species in the Mid-Atlantic. Shark assemblage structures were inferred from VIMS fishery-independent longline catch data. Fifteen species were represented in Bay and coastal waters between 1996 and 2009, dominated by sandbar (62%) Atlantic sharpnose (16%) and smooth dogfish (11%). Analyses revealed seasonal variations in Bay and coastal assemblage structures, and possible contributing factors as well as local impacts will be discussed. This information is essential for further investigations into climate change effects on shark migration phenology in the Chesapeake Bight, and is useful data for ecosystem-based approaches to marine resource management.

0711 Poster Session I, Exhibit Hall D, Friday 9 July 2010

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Morphological Adaptations to Hypoxia in the Electric Fish Genus *Brachyhypopomus*

Many tropical aquatic environments worldwide are characterized by intermittent or prolonged hypoxia (low dissolved oxygen). Nevertheless, many tropical freshwater fishes are able to inhabit these challenging environments via a range of morphological, physiological and behavioral adaptations. *Brachyhypopomus* is a diverse monophyletic genus of weakly electric fishes represented by 28 species distributed from Argentina to Costa Rica. 18 species occur exclusively in normoxic habitats, six species occur exclusively in seasonally hypoxic habitats (floodplains of large tropical rivers or