An early juvenile (age 0-1) Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) abundance estimate and habitat usage within the Delaware River Estuary, USA

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The Atlantic Sturgeon *Acipenser oxyrinchus oxyrinchus* is a long lived, highly fecund and late maturing anadromous fish that historically supported a significant commercial fishery along the eastern coast of North America. Overfishing led to significant population declines with contributions from other anthropogenic impacts which continue to impede recovery. Despite the 2012 endangered species listing of five distinct Atlantic Sturgeon population segments, including the New York Bight population segment, to which the Delaware River spawning stock belongs, relatively little is known about the current population status of natal river populations. The adult population within the Delaware River Estuary is estimated to be less than several hundred individuals. Our work is the first to estimate the abundance of Delaware River Estuary early juvenile (age 0-1), resident Atlantic Sturgeon. Using the Schumacher and Eschmeyer mark-recapture estimator for multiple censuses, we estimated 3,656 (95% confidence interval [CI] = 1,979-23,895) individuals used the Delaware River Estuary as a natal nursery in 2014. Further, we identified key habitat areas where age 0-1 juveniles spend considerable amounts of time including the Marcus Hook area within the Delaware River Estuary using a passive acoustic receiver array.