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Poster Presentation – Fisheries

Title: Environmental contaminants in sturgeon from the Penobscot River, Maine, and the Bears Bluff National Fish Hatchery, South Carolina.

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Abstract: Tissues of six wild sturgeon (two Atlantic, four shortnose) from the Penobscot River, Maine, and 11 hatchery-reared shortnose sturgeon from the Bears Bluff National Fish Hatchery, South Carolina, were analyzed for organochlorine compounds and trace elements. DDT metabolites were the only organochlorine compounds regularly detected in sturgeon fillets. Total DDT concentrations in fillet (max. 54 ng/g wet weight), liver (max. 21 ng/g), and gonad (max. 157 ng/g) tissue samples from the Penobscot River were well below the suggested tissue threshold-effect level of 600 ng/g. Total DDT concentrations in fillets of hatchery-reared shortnose sturgeon did not exceed 10 ng/g. Concentrations of Total PCBs were below detection limits (< 5 ng/g wet weight) in all sturgeon fillet, liver, and gonad tissues. Several other organochlorine compounds were either below detection limits (< 1 to < 5 ng/g) or sporadically detected in fillet, liver, and gonad tissues. Average mercury concentrations in fillets of wild fish from the Penobscot River (Atlantic sturgeon 0.18 µg/g wet weight, shortnose sturgeon 0.42 µg/g) appeared higher than levels in fillets from hatchery-reared shortnose sturgeon (0.03 µg/g). Mercury levels in three of four shortnose sturgeon fillet samples from the Penobscot River exceeded a suggested tissue threshold-effect concentration of 0.20 µg/g. Concentrations of 18 other trace elements in sturgeon tissue samples appeared consistent with results reported in other studies.