

News Release

Chesapeake Bay Field Office

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Scientists Discover Intersex Fish are More Widespread

Annapolis, Maryland - A recent study of intersex abnormalities in fish conducted by researchers from the U.S. Fish and Wildlife Service and the U.S. Geological Survey in the Potomac River watershed showed that at least 82 percent of male smallmouth bass and in 23% of the largemouth bass had immature female germ cells (oocytes) in their reproductive organs.

“Our findings suggest that intersex is both more widespread than previously known, and, at least in the sampled streams, is not related to a single chemical or source,” said Vicki Blazer a scientist from the U.S. Geological Survey.

This condition, a type of intersex, is a disturbance in the fish’s hormonal system and is an indicator of exposure to estrogens or chemicals that mimic the activity of natural hormones. Several other abnormalities were also noted, some affecting female bass.

“At the moment we don’t know the ecological implications of this condition and it could potentially affect the reproductive capability of important sport fish species in the watershed,” said Leopoldo Miranda, Supervisor of the U.S. Fish and Wildlife Service’s Chesapeake Bay Field Office.

In addition to sampling fish, scientists collected water samples at fish collection sites to try to identify what was causing these abnormalities. One possible source of the abnormalities was the discharge coming out of wastewater treatment plants.

“The detection of multiple environmental contaminants from a variety of sources and the high prevalence of intersex suggest a pollution issue that is watershed-wide in scope,” said John Mullican from the Maryland Department of Natural Resources Fisheries Service.

Two scientific papers will be published in the May 2009 issue of Environmental Toxicology and Chemistry. Based on the results of these studies, no single chemical or source could be identified as causing the intersex abnormalities. Scientists pointed out that multiple chemicals, not solely associated with agriculture or wastewater treatment plant effluents, may be responsible.

The Maryland Department of Natural Resource surveys have documented strong reproduction and abundance of smallmouth bass in recent years. “The Potomac River main stem, Monocacy River, and Conococheague Creek remain premier smallmouth bass fishing destinations for anglers,” said John Mullican from Maryland DNR.

Scientists will continue to search for answers. “We will use the best science to find answers to many of our questions including what are the ecological implications of fish intersex and how is it affecting reproductive success of the species,” said Leopoldo Miranda.

To gain a greater understanding of the possible ecological implications of intersex and the reproductive health of bass, sampling of fish from rivers near National Wildlife Refuges from Virginia to Maine is ongoing. Further sampling is also being conducted in the mainstream upper Potomac River and in the tidal area downriver of Washington, DC.

The U.S. Fish and Wildlife Service requested and funded this study. For more information visit the U.S Fish and Wildlife Service, Chesapeake Bay Field Office website at: www.fws.gov/chesapeakebay

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