



Strategies to Address Endocrine Disruption in Fish and Wildlife in the Chesapeake Bay Watershed

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6th National Conference on Ecosystem Restoration

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Intersex in the News

NPR “ What do intersex fish mean for water quality?”

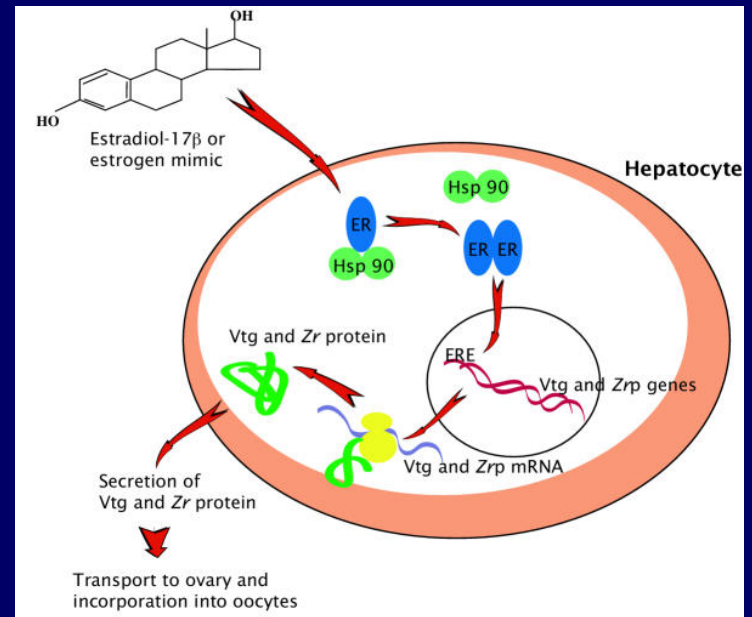
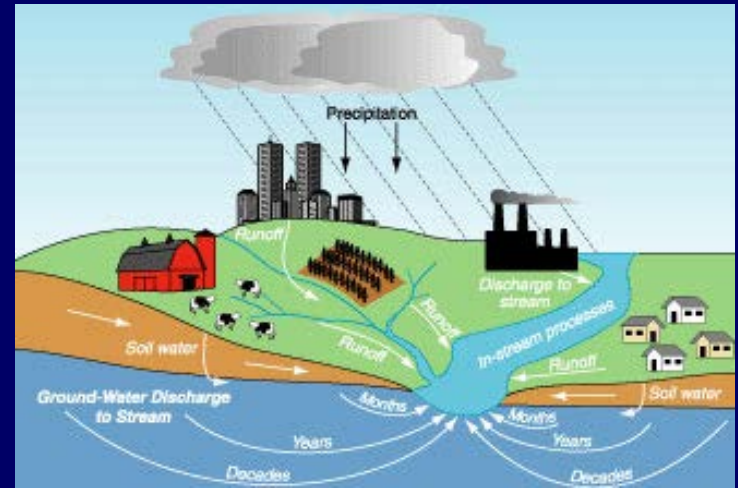
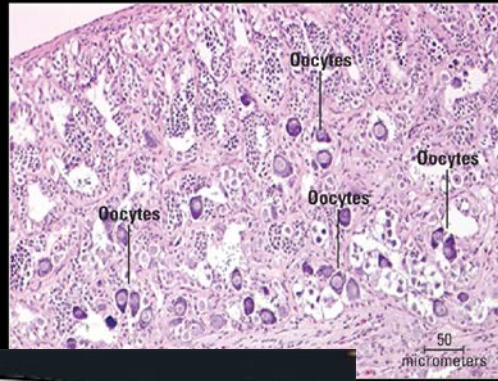
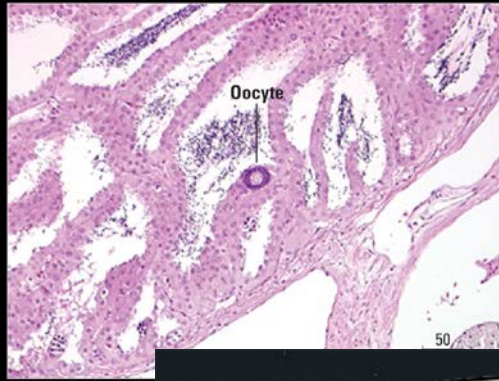
Washington Post “ As more male bass switch sex, a strange fish story expands”

Washington Post “ Bay’s intersex fish mystery remains unsolved”

New York Times “Intersex fish are found at a high rate in the region”

LA Times “Intersex fish found in Pennsylvania spur search for chemicals”

Fish Kills, Intersex and EDCs



Chesapeake Bay EDC Science

SOURCES

Row crops
AFOs
WWTPs
Storm
water

PATHWAYS

Air
Water
Sediment
Maternal
transfer
Food chain

RECEPTORS

Fish
Invertebrates
Wildlife
Humans

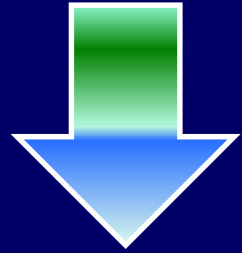
EFFECTS

Endocrine
Reproductive
Immune
Population
declines

Session Overview

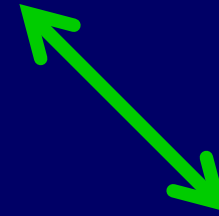
SOURCES + PATHWAYS

- Sources, transport, distribution of EDCs
- EDA to identify chemicals causing ED

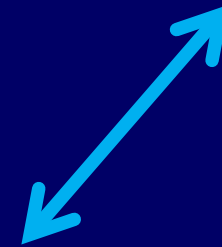


RECEPTORS + CONSEQUENCES/EFFECTS

- Wild fish monitoring to understand ED



RISK ASSESSMENT



1. Pat Phillips (USGS): “Endocrine Disrupting Compounds in the Chesapeake Bay Watershed – Where are we going? Where should we go?”
2. Vicki Blazer (USGS): “Biological Effects Monitoring to Identify Consequences of Exposure to Endocrine Disruptors”
3. Jenny Brennan (USGS): “Effects Directed Analysis of Endocrine Disrupting Compounds in the Chesapeake Bay Watershed: An Important Step on the Road to Managing Fish Health in the Watershed”
4. Yan Li (Penn State): “Assessing the Impacts of Endocrine Disrupting Compounds on Fish Population Dynamics: A Case Study of Smallmouth Bass in Pennsylvania, USA”