

# How the Reproductive Problems of Florida Panthers and American Men are Connected

Like some frogs and sports fish, Florida's panthers are in serious trouble. Already an endangered species, Florida's panthers are plagued by low sperm counts, abnormal sperm, and undescended testicles.



Only 30 to 50 of the large cats still survive. Until recently, inbreeding was blamed for their fertility problems. But now many scientists think that manmade chemicals are the real culprits.

These fertility problems in Florida's panthers are eerily similar to reports of reproductive problems in frogs and fish and undescended testicles and fertility problems in American men.

Reproductive Health Problem	Male Panthers	Male Humans
<b>Cryptorchidism:</b> one or both testes remain lodged in the abdomen.	<input type="checkbox"/> Most male panthers suffer from "cryptorchidism." These undescended testes can contribute to sperm defects. They produce less sperm which are more defective than sperm from testes that descend properly into the scrotum.	<input type="checkbox"/> Undescended testicles are common in male babies. Up to 30% of boys born early and 3 to 5% of boys born on time have at least one undescended testicle.
<b>Sterility/Infertility:</b>	<input type="checkbox"/> As a result of the	<input type="checkbox"/> Infertility now affects one

<p>Infertility is defined as the inability to conceive after one year of unprotected sex.</p>	<p>defective sperm, several of Florida's panthers are completely sterile and are unable to impregnate a female.</p>	<p>in six couples of childbearing age in the U.S. In 40% of cases, the problem is with the man; in 40% it's with the woman, and in 20% the problem is a combination of problems with both the man and the woman.</p>
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Why do we think that the fertility of panthers and people are being hurt by chemicals? Because scientific studies show that both are being harmed by a group of chemicals called "**hormone disruptors.**" Animal studies have shown how these chemicals can get in the way of the actions of natural hormones, which are crucial for processes like sperm formation and testicular descent. The chemical culprits include dioxin, DDT, and PCBs, phthalates, and BPA.

### **"Hormone Disruptors" in the news:**

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#### **It's Time to Learn From Frogs**

Some of the first eerie signs of a potential health catastrophe came as bizarre deformities in water animals, often in their sexual organs.

Frogs, salamanders and other amphibians began to sprout extra legs. In heavily polluted Lake Apopka, one of the largest lakes in Florida, male alligators developed stunted genitals.

In the Potomac watershed near Washington, male smallmouth bass have rapidly transformed into "intersex fish" that display female characteristics. This was discovered only in 2003, but the latest survey found that more than 80 percent of the male smallmouth bass in the Potomac are producing eggs.

Now scientists are connecting the dots with evidence of increasing abnormalities among humans, particularly large increases in numbers of genital deformities among newborn boys. For example, up to 7 percent of boys are now born with undescended testicles, although this often self-corrects over time. And up to 1 percent of boys in the United States are now born with hypospadias, in which the urethra exits the penis improperly, such as at the base rather than the tip.

Apprehension is growing among many scientists that the cause of all this may be a class of chemicals called endocrine disruptors. They are very widely used in agriculture, industry and consumer products. Some also enter the water supply when estrogens in human urine — compounded when a woman is on the pill — pass through sewage systems and then through water treatment plants.

These endocrine disruptors have complex effects on the human body, particularly during fetal development of males.

Some studies show correlations between these abnormalities and mothers who have greater exposure to these chemicals during pregnancy, through everything from hair spray to the water they drink.

There is also some evidence from both humans and monkeys that endometriosis, a gynecological disorder, is linked to exposure to endocrine disruptors. Researchers also suspect that the disruptors can cause early puberty in girls. Endocrine disruptors also affect females. It is now well established that DES, a synthetic estrogen given to many pregnant women from the 1930s to the 1970s to prevent miscarriages, caused abnormalities in the children.

The Environmental Protection Agency is moving toward screening endocrine disrupting chemicals, but at a glacial pace. For now, these chemicals continue to be widely used in agricultural pesticides and industrial compounds. Everybody is exposed.

"We should be concerned," said Dr. Ted Schettler of the Science and Environmental Health Network. "This can influence brain development, sperm counts or susceptibility to cancer, even where the animal at birth seems perfectly normal."

Source: *The New York Times*, June 28, 2009.