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New Toxic Chemical Diffusing Through Atmosphere

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MIAMI — A poisonous new man-made chemical, nearly as deadly and long lasting as DDT, is slowly diffusing through the entire environment of Florida and the rest of the nation — creating fear of another "DDT crisis."

The new pollutant has recently started turning up in fish, birds, water, and even man. And it's quickly becoming almost as prevalent in some birds and animals as DDT itself.

Scientists believe the chemical is virtually a "chemical cousin nearly" of how a pollutant can spread through the ecological system before it's even identified.

This new environmental threat carries a deceptively simple name. Scientists call it "PCB," short for "Polychlorinated Biphenyl." PCB doesn't occur naturally — it's made from benzene, a petroleum derivative.

PCB, used extensively in manufacturing, is made by Monsanto Chemical Company.

Like DDT, PCB is "persistent," which means it doesn't break down quickly in nature. Scientists are still looking for data on possible long-term effects of PCB on all forms of life on earth.

PCB is used in the manufacture of products ranging from pesticides to ink to plastics to electrical insulation. It's even found in some of the plastic bags wrapping supermarket food.

As these products decompose, the PCB remains intact — to be picked up later in the "food chain" and work its way up the chain of fish, eagles, and man himself.

"We've turned up some pretty sizable levels here in Florida," says Jack Lowe, a fish research biologist at the U.S Bureau of Commercial fisheries lab in Gulf Breeze, near Pensacola.

"We've found it in fish, shrimp, oysters, crabs, any number of things. It appears that PCB's are toxic to shrimp, for one, but we're still working on it.

"When we turned these readouts up, we thought it was common to be disturbed since the compound is chemically related to pesticides," Lowe said.

Other federal biologists said pesticides such as PCB are being found in dead birds, particularly bald eagles, in about the same amount as DDT — which has up to now been blamed for many bird deaths.

The case of PCB has been something of a scientific detective story. But it's been a detective story in which science was, for a long time, confused by the pollutant.

PCB is so close to DDT, chemically, that chemists isolated the new pollutant and identified it for the first time. By that time, however, PCB had become widely dispersed throughout America and Europe.

Like DDT, PCB travels through the food chain in a process called "biological magnification." Little crustaceans collect and concentrate the chemical, then are eaten by larger crustacea, which in turn are eaten by something else. Since the larger crustacea eat many of the smaller ones, PCB is concentrated along each step until the animal at the top of the food chain — usually, the bald eagles — ingests a large concentration of the pollutant.

The Monsanto Company makes PCB at two plants in Alabama and at Sauget, Ill. The firm refuses to reveal production figures.

At federal request, Monsanto is organizing a campaign to reduce PBC and to recover the chemical from manufacturing processes. But the compound appears to be widely scattered already.