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### High levels of contaminant found in osprey eggs

A stain repellent may affect hatching and the hunting ability of birds in Casco Bay, a scientist says.

By JOHN RICHARDSON, Staff Writer

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Ospreys nest atop a man-made platform along the Harraseeket River. Adult ospreys eat fish that are tainted with the compound PFOS, which is then passed on to eggs and chicks, according to a new study.

Osprey eggs in Casco Bay contain stain repellent and other industrial chemicals at levels that may be harming the birds, according to Gorham-based researcher.

The study adds to the growing evidence of industrial chemicals in the environment, potentially threatening human health and v Wing Goodale, a scientist at the BioDiversity Research Institut study.

Goodale first found contaminants in a 2008 study of eggs from species statewide. He is now looking at specific bird species an learn more about the contamination.

"These are completely synthetic (chemicals). We should not be in any wildlife," he said.

One egg from an osprey nest on Flag Island, in eastern Casco Bay, contained the highest level of ca repellent that Goodale has seen in any wildlife study, he said. "I immediately called the lab to see if i typo, and there wasn't."

The study looked for flame retardants, industrial stain and water repellents, transformer coolants and and found them in all or nearly all of the 12 eggs that were tested, he said.

Many of the chemicals, including the flame retardant deca-BDE, have been found in wildlife around Deca-PBDE also is found in human blood and breast milk.

Maine's Legislature is phasing out sales of consumer products containing deca-BDE, and others stat followed.

There is less data on wildlife's exposure to perfluorinated chemicals, PFCs, which are added to carp furniture and food packaging to make them water- and stain-repellent.

The osprey study looked for a particular variety called PFOS, a stain repellent known by the brand r Scotchgard that was reformulated to remove the compound. PFOS is still made in other countries, z be entering the environment as a component of other PFCs that are still widely used.

The chemicals are believed to leach from products such as carpeting into the waste stream and the ocean. Trash incinerators may release chemicals into the air so that they travel some distance before settling the ocean. The chemicals get into the food chain and, eventually, adult ospreys eat tainted fish and pass chemicals on to their eggs and chicks, according to the study.

It's unclear what effect the chemicals may be having on ospreys and their eggs, although they may be affecting hatching and development of the chicks and the hunting ability of the adult birds, Goodale said.

Seventy-five percent of the osprey eggs contained PFOS at levels that have been shown in laboratory tests to cause harm to developing chickens.

"This one level on Flag Island was essentially 25 times above that level," Goodale said. That egg contained 12,500 parts per billion of PFOS, while the rest had 500 parts per billion or less.

PFOS has been detected in birds' eggs in other parts of the country and in other wildlife studies. It is also found in people and is assumed to be present at low levels in the blood of the general population, according to the U.S. Environmental Protection Agency.

A test conducted last year by the Portland Water District showed traces of PFOS in Sebago Lake, the source of drinking water for Greater Portland.

"It is showing up everywhere," said Michael Belliveau, director of the Environmental Health Strategy in Bangor. "This verifies the growing concern about these compounds."

While studies have linked PFOS to cancer and reproductive and developmental problems in animals, similar studies in humans has not been conclusive.

The EPA has been studying PFOS and similar chemicals but has not yet determined what level of exposure to any, can harm human health.

Minnesota-based 3M, which was the primary U.S. manufacturer of PFOS before phasing out that chemical from Scotchgard in 2000, continues to monitor the chemical's effect on the health of its employees who work with it, according to the company's Web site.

"The extensive research to date shows no adverse human health effects resulting from exposure to PFOS in all 50 states."

The Web site also states the company found that PFOS levels in the general human population declined from 2000 to 2005.

A 3M spokeswoman could not be reached Monday to comment on the osprey study.

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