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Study seeks to assess damage done to natural resources from chemicals

By Lee Coleman

Bats show elevated levels of PCBs



STILLWATER — Bats from the upper Hudson River have five times as much PCBs in their systems as bats from other parts of the state, a newly-released study says.

“We can see that they are exposed [to PCBs],” said Robert Foley, a wildlife toxicologist with the U.S. Fish and Wildlife Service.

The scientific study stated that the little brown and big brown bats harvested near the Hudson in the town of Stillwater eat aquatic insects that are contaminated by Hudson River PCBs.

Little brown myotis bat report says.

The aquatic insects coming out of the upper Hudson, which bats eat in large quantities, have concentrations of more than five parts per million PCBs, the

Bats are also prey for higher level predators, including some migratory birds such as barred owls. “Bats may thus provide a pathway exposure of other wildlife to PCBs,” the report says.

The report states that bats start feeding on insects soon after sunset and can “consume insect prey each night at a rate which equals from between 30 and 50 percent of their body weight.”

State DEC staff members collected the bat samples in 2001 and 2002. A total of 31 bats —26 little brown bats and five big brown bats — were collected for the study. They used an acoustic detection device that allowed the scientists to tell what types of bats are flying near the river at dusk.

“Each bat species has its own noise or song,” Foley said. He said the electronic device provided clear identity of a bat species.

The device was used so that the DEC people wouldn’t collect any endangered bats, such as the Indiana bat, Foley said.

The little and big brown bats were detected with the electronic equipment, sighted in spotlights and shot with shotguns.

The investigation team members collected the bats on the Hudson by boat, according to the study.

The bats were placed in clean glass jars and eventually frozen and sent to an out-of-state laboratory where their brains were tested for PCB concentrations.

The Preliminary Investigations of PCBs in Hudson River Bats is part of an ongoing state-federal natural resource damage assessment of problems caused by PCBs in the Hudson River.

General Electric capacitor plants in Hudson Falls and Fort Edward discharged an estimated 1.3 million pounds of PCBs (polychlorinated biphenyls, a probable carcinogen) into the upper Hudson over a 30 year period.

The practice stopped in 1977 but the river was heavily impacted by the toxic chemicals, according to federal scientists.

The resource damage assessment project is not part of the Hudson River PCB cleanup project that is scheduled to

start in the spring of 2009.

However, once the assessment is completed in five or six years, the assessment team will develop a plan to restore the Hudson River focusing on the species that were most heavily impacted by the PCBs. The assessment has also included investigations into PCB damage to tree swallows, mink and other wildlife.

The restoration work, and costs associated with it, will be the responsibility of GE.

Total PCBs in the brains of little brown bat males and females range from about 1,800 parts per billion to 2,400 parts per billion and about 270 to 1,800 ppb, respectively, according to the report released late last year by the state Department of Environmental Conservation, The National Oceanographic and Atmospheric Administration and the U.S. Fish and Wildlife Service.

Toxicological data on the impacts of PCBs on bats is limited. Many laboratory and field studies done in other parts of the country have shown the potentially harmful effects of PCBs on fish, birds and other wildlife, the study says.

"By comparison, total PCBs in brains of little brown bat females from reference areas [in other parts of the state] range from non-detect to about 660 parts per billion," according to the study.

Foley said the assessment team is still evaluating data on the preliminary bat investigation. He said the next step, if the data warrants it, would be to develop and injury study related to bats in the upper Hudson. This study would be part of the larger river restoration plan he said.

"The damage assessment is separate [from the PCB cleanup project]," said Mark Behan, a GE spokesman.

Behan said it's important to view the assessment work in perspective. He said GE is preparing to "begin one of the largest environmental cleanup projects in U.S. history."

"We hope that common sense and good science will prevail," Behan said about the natural resource damage assessment.

"We are about to start an enormous cleanup project," Behan said.