Controversial Pesticides (neonicotinoids)Are Suspected Of Starving Fish
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There's a widely used family of pesticides that's controversial because it can harm pollinators like bees. Now there's evidence it could also be risky for organisms in water, like insects and fish. That evidence comes from a lake in Japan and NPR's Dan Charles has the story.

DAN CHARLES, BYLINE: Lake Shinji lies near the coast, next to the Sea of Japan. Masumi Yamamuro, a scientist with a geological survey of Japan, says the lake is famous for its views of the setting sun.

MASUMI YAMAMURO: It's amazingly beautiful.

CHARLES: Do people come, and to look at the sunsets to see the lake?

YAMAMURO: Yes, yes. We have a special spot for that.

CHARLES: Historically, there were thriving fisheries here. People harvested clams and eels and small fish called smelts. But Yamamuro says about a decade ago people noticed the fish were declining rapidly.

YAMAMURO: And I was asked to investigate.

CHARLES: When she started investigating she realized the decline in fish population did not seem to coincide with anything that people were keeping track of, like the lake's salinity, or levels of pollution. But she noticed something else, one kind of fish in the lake was doing fine. This one had a more diverse diet; it could eat algae as well as tiny insects in the water. The eels and the smelts that were in trouble, they mostly ate insects and crustaceans and that fish food was disappearing.

YAMAMURO: So we concluded something killed the food of the eels and smelts.

CHARLES: She now thinks she knows the culprit, pesticides called neonicotinoids. The evidence is circumstantial. Right around the time the fish started having problems, farmers near the lake started using these pesticides on their rice paddies to control insect pests and Yamamuro found traces of these chemicals in some parts of the lake. Enough, she thinks, to cause problems for tiny aquatic animals. Also, these chemicals kill insects, not the algae that the thriving fish were eating. She and her colleagues just published these findings in the journal Science. Jason Hoverman, an ecologist at Purdue University in Indiana says the study does not really prove that neonicotinoids are guilty. There is no historical data showing levels of pesticides in the lake back when the fish started to die. But he says it is a reasonable suspicion and it's good to remember that chemicals can have really complicated effects on an ecosystem.