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Lawsuit Threatened Over Cumulative Ecosystem Effects From Sixty Pesticides

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The Center for Biological Diversity has served notice of its intent to sue EPA and Interior using novel theories which allege that multiple pesticides cause adverse synergistic and cumulative ecosystem effects on endangered species in the San Francisco Bay watershed.

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The Center for Biological Diversity has filed a Notice of Intent to sue EPA and the Interior Department over their alleged failures to protect endangered species from pesticides used in the San Francisco Bay watershed.

Interior and the Agency confirmed receipt of the Notice on Jan. 16. Under the citizen suit provisions of the Endangered Species Act, a plaintiff must wait 60 days before filing suit unless an emergency situation exists.

CBD will wait to see if Interior and the Agency respond to the Notice within the 60-day timeframe, and then decide on its course of action. If the suit proceeds, CBD will seek an order requiring EPA to initiate, or reinitiate, consultations with the Fish and Wildlife Service on pesticides alleged to threaten listed species.

The suit would also seek an order requiring the imposition of interim mitigation measures, which would remain in place while the Agency and FWS engage in consultations.

Besides identifying 11 at-risk species, the Notice targets 60 pesticides which are used in the Bay Area despite their "known, significant effects on wildlife and the EPA's own acknowledgments regarding pesticide use exceeding levels of concern for endangered species," CBD Wildlands Coordinator Jeff Miller said in a press release.

The Portland, Ore., attorney representing CBD says he would like to see EPA pursue discussions with the group instead of fighting its complaint in court, but he declined to guess what the Agency's response will be.

"We would prefer," Brian Litmans told Insider, "to just enter into a dialogue with EPA and discuss their compliance with the Endangered Species Act. But, I have no feelings one way or the other as to whether or not the Agency is going to contact us prior to the notice running out."

THE COMPLAINT

CBD points out that, "Based solely on reported use, more than 61 million pounds of pesticide active ingredients were applied in Bay Area counties from 1999 through 2005, more than 8 million pounds annually. Actual use may be several times this amount since most home and commercial pesticide use is not reported to the state. Under the Bush administration, the EPA has failed to consult with the U.S. Fish and Wildlife Service or adequately consider endangered species impacts when registering and authorizing use of at least 60 toxic pesticides that may harm vulnerable Bay Area wildlife species."

The interim use-restrictions that CBD will seek for these 60 pesticides "would be similar," Miller said, to those in effect for the red-legged frog (see Insider, Vol. 3, No. 18, "Growers Rankled Over EPA's Proposed Restrictions On 66 Pesticides To Protect Endangered Frog," Sept. 26, 2006).

The interim Bay Area measures, Miller said, "would be reasonable

and effective protection until formal consultations with the Fish and Wildlife Service are completed for these eleven species. Permanent use restrictions will be needed for contaminants harmful to endangered species and human health, such as atrazine. Based on the proximity of agricultural operations to residential areas, studies that have detected accumulation of pesticides in Bay Area creeks and San Francisco Bay, and what we know about pesticide drift and runoff, there is a clear risk both to endangered wildlife and human health."

CBD argues that data from EPA, FWS and the U.S. Geological Survey demonstrate "the use, presence or accumulation of 60 pesticides of concern in, or adjacent to (upstream or upwind) habitat for the 11 Bay Area endangered species," adding that EPA "has not consulted with the FWS to ensure that the chemicals are not contributing to the decline of listed species."

The 11 listed species identified by CBD include fish (tidewater goby and delta smelt); a bird (California clapper rail); mammals (salt marsh harvest mouse and San Joaquin kit fox); an amphibian (California tiger salamander); reptiles (San Francisco garter snake and Alameda whipsnake); an invertebrate (California freshwater shrimp); and insects (valley elderberry longhorn beetle and bay checkerspot butterfly).

The Notice ascribes a wide range of adverse impacts to the species from one or more of the 60 pesticides. A few of the impacts include: bird mortalities from diazinon and carbofuran; salamander mortalities from endosulfan; snake mortalities from fumigants, including aluminum and magnesium phosphide, applied to burrows; and fox and mouse mortalities from rodenticides as well as the fumigants.

CUMULATIVE AND SYNERGISTIC EFFECTS

Insider asked Litmans to discuss some aspects of the CBD notice, starting with the allegation that EPA has failed to assess the cumulative effects of pesticides on the 11 species. Litmans explained that CBD is not necessarily seeking a duplication of the cumulative risk assessments of dietary pesticide residues required under the Food Quality Protection Act - which directed EPA to assess the risks posed by pesticides with common mechanisms of toxicity.

"The Notice," Litmans said, "is talking about cumulative effects on ecosystems as well as species. What we ask for, based upon the [regulatory] system we're working with, which, for the most part, is EPA's FIFRA program, is for EPA to start assessing the impacts of pesticides that are known to exist in the habitat of endangered species, or known to have certain toxicological effects or adverse impacts to species, or subspecies, and assess the impact of all of the pesticides cumulatively.

"There's a whole array of cumulative impacts associated with pesticide use," Litmans continued. "So, the word 'cumulative,' in the context of our complaint, is defined very broadly, and it would certainly include the cumulative impacts of having multiple pesticides in the habitat.

"If we take an aquatic habitat and a fish species," Litmans added, "and we take all of the pesticides known to enter the watershed: even if we split them up [according to common mechanisms of toxicity], the process wouldn't end with an assessment of the [common mechanism] group. You would then look at the cumulative effect of having, say, triazines, pyrethroids and organophosphates [OP's] all within the same aquatic watershed.

"What's the effect," Litmans said, "when you have pulses of all those chemicals? What's the effect when you have lower levels for an extended period of time? What are the chronic, cumulative effects - as well as cumulative effects associated with acute impacts arising from spring flushes or pulses? So, we are looking for a full and complete assessment of the pesticides' fate and their cumulative impacts in the species' habitats."

Asked to explain the synergistic effects which CBD also wants EPA to assess in endangered species risk assessments, Litmans said synergy refers to a cascade of effects.

"If one pesticide, for example, results in lower numbers of macro invertebrates," Litmans said, "then there's less prey for fish, so the indirect impact is a reduction in the food supply. Maybe a different pesticide is causing direct impacts to the species which disrupt its ability to find food. So, the two pesticides have different impacts, but you have a synergistic effect in terms of the overall ability of the species to exist.

"Another example," Litmans continued, "comes from the research of [University of Pittsburgh biologist] Rick Relyea, who has published

several studies in which he assessed synergistic impacts from toxins disrupting ing behavior, or the ability of fish to swim and find prey, or their ability to evade predators. We use the term 'synergy' in an ecologically broad way."

By contrast, Litmans said, "EPA assesses the ecological effects of pesticides individually, pesticide-by-pesticide - and we feel that even those individual assessments are inadequate."

Litmans is also concerned about the future of ESA assessments under the new, registration review program. Under that program, which was mandated by the FQPA - and which replaces the reregistration program - pesticide registrations will be reviewed every 15 years to ensure, among other things, that safety or environmental issues haven't emerged since the previous assessment.

"One of our most significant concerns," Litmans said, "is that we're going to have a 10-to-15-year window between the registrations going on now and the registration reviews that will start again in 15 years. EPA thinks it's fine to wait 15 years before assessing pesticide effects on endangered species when people have been identifying concerns about numerous pesticide effects on birds, fish amphibians, and terrestrial species for years and years, and so we think it's wholly inadequate to delay review for such a long period of time."

[Editor's Note: Insider has learned that the first registration review dockets are expected to open this week, thereby launching the program.]

Told that EPA will reshuffle the chronological sequence of reviews to address some endangered species concerns upfront (see Insider, Vol. 2, No. 14, "EPA's Proposal For Registration Review Provokes Industry Concerns," Aug. 2, 2005), Litmans said, "Our concern is that the OP's and triazines just went through the [reregistration] process, and they won't be looked at again for 15 years and they'll still be used each and every day of their use seasons, despite the fact that they have been identified as posing significant risks to species. And, to wait for those reviews just because it's convenient for EPA doesn't mean it's convenient for the species."

The CBD litigation, however, would seek to compel consultations well in advance of the 15-year registration review cycle; for example, for the OP diazinon, which is singled out as the pesticide threatening the tidewater goby.

"Diazinon is the only pesticide we'd be suing over as far as the goby is concerned," Litmans said, "but I think that's very conservative because I think there are several other pesticides out there that are adversely affecting the tidewater goby, but what we're seeking from EPA is consultation on diazinon, alone, for that species."

ESPP CONCERNS

Another reason CBD is pursuing this ESA litigation, Litmans said, stems from concerns over the new, Endangered Species Protection Program (see Insider, Vol. 3, No. 4, "EPA Rolls Out Endangered Species Field Implementation Plan," Feb. 28, 2006), which establishes a system for pesticide users to learn if their applications are subject to use-restrictions by downloading Endangered Species Protection (ESP) Bulletins. The restrictions in the Bulletins, unlike those in the outdated County Bulletins they are replacing, will be enforceable by virtue of the references to them in pesticide labels.

Under the ESPP program - which won't officially launch until the first ESP Bulletin is posted on EPA's ESPP web site - everyone planning to use a pesticide outdoors will be expected to download the Bulletins (or call a toll-free number if they don't have Internet access) before proceeding with their applications.

"We don't know if there's adequate infrastructure for this system," Litmans said, "and we're not sure that this approach is necessarily the best way of going about ensuring that specific restrictions are observed. We're not sure that the users are going to necessarily go to that web site, or call that toll-free number, to find out about the restrictions if they're not right there on the label."

Litmans is also concerned that the SPP program "doesn't institute endangered species pesticide monitoring. The program leaves pesticide monitoring in water up to USGS, and, while the USGS has been doing a good job of addressing this issue - they seem more concerned than EPA about the fact that pesticides are being found throughout the nation's waters, both surface- and groundwater - the USGS monitoring is limited to basin-level monitoring. That means watersheds across the country are not assessed, and we believe EPA has an obligation to start actually figuring out where these pesticides are entering waterways, and to

determine their fate in much greater detail than they attempt to do during reregistration."

"So," Litmans added, "we have concerns about EPA's pesticide protections for endangered species across the board."

The Notice of Intent to sue EPA and the Interior Department filed by the Center for Biological Diversity is located at: www.pesticide.net/x/CBDNoticeOfIntent-20070109.pdf

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