

Should Humans Give Overheated Species a Lift?

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As the Earth warms up (2006 was the hottest year on record in America and the hottest in Britain since 1659), ecologists expect many plants and animals to move up, too -- up north and uphill, to locations where temperatures are more to their liking.

UC Davis ecologist Mark Schwartz is one of the first scientists to ask publicly a question that's been a topic of insider conversation for some time: Should humans give those migrations a helping hand?

"Global warming is predicted to threaten a large number of our plants and animals with extinction. One obvious solution is to help species at risk move to new environments where they may thrive," says Schwartz, a professor of environmental science and policy and director of the UC Davis Center for Population Biology.

"However, our experience with costly unintended consequences of biological invasions should give us pause before embarking on such a mission."

A good example of an animal already shifting its habitat because of climate change is the Edith's checkerspot butterfly (Euphydryas editha wrighti). Found in California's Sierra Nevada mountain range, the butterfly has moved in the past 25 years from lower elevations to higher ones, and from southern locations to northern ones.

Schwartz and two colleagues at University of Notre Dame have written



the first major scientific paper on the subject of "assisted migration." Titled "A Framework for Debate of Assisted Migration in an Era of Climate Change," it will appear soon in Conservation Biology, the journal of the Society for Conservation Biology. His co-authors are assistant professors Jason McLachlan and Jessica Hellmann.

Today's New York Times discusses the issues in a story by science writer Carl Zimmer titled "A Radical Step to Preserve a Species: Assisted Migration." In it, an expert on global warming and extinctions calls Schwartz's Conservation Biology paper a "breakthrough" for framing the assisted migration debate.

Schwartz also is quoted in a news story in the January-March 2007 issue of Conservation magazine, a general-audience publication of The Society for Conservation Biology. In "When Worlds Collide," science writer Douglas Fox quotes Schwartz as saying that while biologists might decide a species should be moved, "It is much harder to find people who want to bring these outside species into their communities."

Fox continues: "Schwartz acknowledges that people will inevitably resort to assisted migration to rescue some species, but he hopes that guidelines can be developed to regulate the practice."

Source: UC Davis

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