



By Craig M. Pease

## It's Owls All The Way Down

At the nub of the 9th Circuit's en banc decision last summer in *Lands Council v. McNair* lies a patently absurd question: When can a tree substitute for an owl? I will grant that this does not appear to be an especially fruitful line of inquiry. Trees don't hunt mice, and one cannot build a house out of owls. Yet therein the court addressed issues at the very heart of science.

In *Lands Council*, plaintiffs alleged that several proposed timber sales would harm flammulated owls. The scientific question presented was whether Forest Service analysts employed a reliable scientific methodology when they drew inferences about owls, using data from the trees of their old-growth ponderosa pine or Douglas fir habitat. Why use data about trees to answer a question about owls? Well, flammulated owls are smallish, they fly at night, and there are not so many of them. Conversely, trees are big, they stay put, they can be studied during the day, and there are lots of them.

Often in science, it is better to have a lot of good data addressing a proxy question (how logging affects trees), as opposed to fewer poor data directly addressing the question of interest (how logging affects owls). Indeed, questions about the validity of proxy data arose repeatedly in the long and instructive line of cases

leading to *Lands Council*. In *Inland Empire Public Lands Council v. U.S. Forest Service*, for example, the court considered what has been dubbed the proxy-on-proxy approach (biodiversity in general represented by pileated woodpeckers, in turn represented by their old-growth habitat). The court was onto something important. All scientific conclusions rest on a foundation of layer upon layer of models. In science, it's not turtles all the way down, to borrow from Stephen Hawking's famous anecdote on the foundations of physics, so much as it's models all the way down.

And in a thoughtful and remarkable decision last fall citing *Lands Council*, the 9th Circuit explicitly interpreted the statutory term "reliable data" to encompass the predictions of computer models. The Northwest Coalition for Alternatives to Pesticides had challenged EPA over a rule setting tolerances for several pesticides. In the absence of data on the levels of the pesticides in question in residential

taps, the agency had relied heavily on predictions of pesticide levels made by computer models. These predictions, in turn, rested on actual data

describing how chemicals move from agricultural fields to residential taps, albeit chemicals other than the ones being regulated. Computer models, like all scientific models, enable scientists to extrapolate from the data they have, to the data they wish they had. Models are also central to the law. Litigating a substantive claim in environmental law is a lot like gathering data on flammulated owls — it takes a lot of time and money, with often poor prospects of success. My scientific colleagues are often irked with the law's focus on procedural claims and purely legal questions. But the irony is that the lawyers are only doing what scientists themselves do — using models to evade hard sci-

entific questions. Just as data on trees are easier to come by than are data on owls, so too is it generally easier to litigate procedural claims (e.g., deadline lawsuits) as compared to substantive claims. Procedural claims thereby serve as models of substantive claims.

Indeed, the *Lands Council* plaintiffs litigated a substantive claim concerning harm to owls from logging, and lost. And they lost in a way that may make successfully litigating substantive environmental claims even more difficult in the future. *Lands Council* can be read as announcing a shift toward increased deference under the arbitrary and capricious standard of review. The court explicitly overruled its previous decision in *Ecology Center v. Austin* because they had not been sufficiently deferential, writing, "Our environmental jurisprudence has, at times, shifted away from the appropriate standard of review."

Even so, *Lands Council* can also be read to suggest that the narrow set of facts presented will greatly restrict its future applicability. The ultimate test of any model is how well it can be validated; that is, whether its predictions match the data.

*Lands Council* is unquestionably a model of future 9th Circuit decisions, even if we don't know if it is broadly or narrowly applicable.

I am heartened to read the *Lands Council* jurisprudence. It explicitly evaluates scientific methodology both in terms of the quality of the data, and the reliability of the models for interpreting the data. Yet I am also troubled. Just when the court has demonstrated a good understanding of science, it may have simultaneously pulled back in how stringently it reviews agency science.

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