Testimony of
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before the

House Resources Committee

on

HR 2829 and HR 3705

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Thank you for the opportunity to present this testimony on behalf of Environmental Defense. The two bills that are the subject of today's hearing address various aspects of the role of science in the administration of the Endangered Species Act. That is a very important topic, one for which I hope I can offer a helpful perspective.

Before addressing the substance of the two bills, I will briefly describe for the committee my experience and that of my organization relevant to the topic at hand. The organization for which I work, Environmental Defense, was founded in 1967 by a group of scientists concerned about the effects of the pesticide DDT on wildlife. Their efforts eventually led to the elimination of widespread use of DDT in the United States, an action that has made possible a dramatic improvement in the status of the nation's symbol, the bald eagle, as well as the peregrine falcon, brown pelican, osprey, and still other species.

Beginning with the scientists who founded Environmental Defense, we have throughout our thirty-five year history been firmly committed to finding scientifically sound solutions to environmental problems. Our staff is drawn from fields as diverse as biology, hydrology, toxicology, biochemistry, engineering, medicine, anthropology, ecology, economics, and law. My training is in law, but my career has been spent working closely with scientists and with scientific organizations. I have, for example, served on the Board of Environmental Studies and Toxicology of the National Research Council of the National Academy of Sciences, the very board under whose auspices the recent preliminary study pertaining to the Klamath Basin was done, and the board that produced the 1995 report, *Science and the Endangered Species Act*. I have frequently published articles with scientists as co-authors, and have written for a wide variety of scientific journals, including the *Journal of the Washington Academy of Sciences*, *Quarterly Review of Biology*, *Nature*, *Natural History*, *Bioscience*, *Conservation Biology*, *Marine Pollution Bulletin*, and *Conservation Biology in Practice*. For the last of these journals I serve on the editorial advisory board. I also have served as a peer reviewer of manuscripts submitted for publication in various of these journals.

One other aspect of my background warrants mention. I work closely with landowners on projects to enlist their cooperation in the conservation of endangered species. Indeed, finding ways to enlist landowners – particularly private landowners – as allies, rather than adversaries, of endangered species conservation has been the overriding focus of my work for the past half dozen years. I am convinced that

the help of private landowners is essential for recovery of many endangered species . After all, they own the land where recovery must occur, and only they have the ability to manage that land in ways that facilitate recovery. My colleagues and I at Environmental Defense are cooperating with landowners to help endangered species in many different parts of the country. We work with forest landowners in Virginia, the Carolinas, Georgia, Alabama, and Mississippi, with ranchers in Texas and Utah, and with farmers in California. In my experience, winning the cooperation of landowners, particularly "working landscape" landowners such as farmers, ranchers, and foresters often depends on four things: (1) keeping things simple; (2) expediting agency decisions; (3) providing agencies with adequate resources to make speedy and intelligent decisions; and (4) giving landowners real and meaningful incentives to manage land (and water) for the benefit of endangered species.

The two bills before the committee today do not address these needs. They make aspects of the Endangered Species Act still more complex, rather than simpler; they slow agency decision-making, rather than expedite it; they provide no new resources to cope with new procedural obligations; and they do nothing to create positive incentives for conservation action by private landowners. All of that is not to deny that there is a problem with the scientific bases for decision-making under the Endangered Species Act. These bills, however, misdiagnose that problem and prescribe a remedy that will do little or nothing to solve it. More troubling still is that in places, the bills reveal a dizzying ignorance of science itself.

The fundamental problem with the scientific bases for decision-making under the ESA is hardly new. The National Research Council acknowledged it in its 1995 study, *Science and the Endangered Species Act*. Many of the key decisions required by the Endangered Species Act, including whether a species should be listed as endangered, and whether a particular action is "likely to jeopardize the continued existence" of any such species are at bottom judgments about the risk of extinction that a species faces. The amount and quality of information underlying such judgments affects one's confidence in them, yet, as the National Research Council report noted, "there will always be uncertainty in the estimates of risk used to trigger decisions under the ESA, requiring policies and processes for making decisions with incomplete and uncertain data" (p. 175, hardcover edition). Underscoring this inherent uncertainty, the National Research Council noted that "for even the best-studied endangered species, essential pieces of information might be lacking, yet decisions must be made " (p. 159). The "best studied" endangered species, of course, are very few, for, as the National Research Council noted, "our biological understanding of many rare, threatened, or endangered species does not extend far beyond a taxonomic description and a coarse geographic distribution," yet "that lack of data should not be the basis for failure to list a species if other information is available to indicate that listing is otherwise warranted" (p. 182).

Since listing decisions and jeopardy determinations are, by definition, judgments about the risk of extinction that are always made with incomplete data, it is erroneous and misleading to label such judgments as correct or incorrect. Yet, that is exactly what the Pombo bill (HR 3705) requires when it obliges the Secretary to evaluate a review board judgment that differs from his own prior judgment about the need to list a species. A somewhat similarly flawed understanding of the nature of these decisions is reflected in the Walden bill (HR 2829) requirement that the Secretary "give greater weight to scientific or commercial data that is empirical or has been field tested or peer-reviewed." Making sense of this requirement is a challenge, inasmuch as data – the factual information used in reasoning – are never peer-reviewed. Instead, data are collected and then used to test hypotheses. Peer review focuses on whether the use of data (i.e., the reasoning) is sound. Peer review may call into question whether data were properly collected, or whether the right kinds of data were collected, but the data themselves are not peer-reviewed. Nor does it make much sense to refer to data that are "field tested" for much the same reasons. Thus, rather

than improve scientific decision-making, this language is likely only to cause scientists to wonder what Congress could possibly have meant. Perhaps what the drafters of this language really intend is to discourage the use of models – which typically employ both known information and assumptions to predict future outcomes – in endangered species decision-making. Here again, the National Research Council has addressed the use of models in endangered species decision-making, noting that "although most of these models have shortcomings, they do provide valuable insights into the potential impacts of various management (or other) activities" (p. 142).

One can only hope that the apparent aversion to the use of modeling reflected in the Walden bill does not extend to the realm of hurricane prediction. Predicting where, or whether, hurricanes will make landfall is akin to predicting that a species may go extinct in the foreseeable future. Both deal with significant uncertainties. At least two members of this committee, Mr. Jones and Mr. Gilchrest, are likely to remember Hurricane Felix of August 1995. It churned for days off the mid-Atlantic coast with wind gusts of 145 miles per hour, one of the longest-lived hurricanes on record. Hurricane warnings from South Carolina to Chesapeake Bay prompted mass evacuations of beach communities at the height of the tourist season. The lives of millions of people were disrupted, as were thousands of businesses. And yet, the hurricane never came ashore. It was, in the end, a false alarm. The National Weather Service, relying on its most sophisticated models, erred on the side of caution, and properly so, because the consequence of not issuing a warning and being wrong would have been far more disastrous. In much the same way, if we find out after the fact that we should have protected a species, but didn't, the consequence is the loss of the species. Some members of this committee may debate how important that is, but this much they cannot debate – it is irreversible.

The bills now before the committee are also flawed in their understanding of the threats affecting species. For example, the Pombo bill would require that petitions to list species present clear and convincing evidence that "the population of the species is declining or has declined from historic population levels and beyond normal population fluctuations for the species." What this entirely overlooks is the fact that some species can be in serious peril of extinction as a result of demonstrable threats, even though no decline in population has occurred. A ready example is the Devil's Hole pupfish of Nevada, which has been on the endangered list since 1967, even though its population has been relatively constant for millennia. Because the pupfish occurs only in one desert pool, the threat of groundwater depletion has long been recognized as putting that species at risk of extinction. Thus, for species like the pupfish, that occur in highly restricted habitats and are vulnerable to clearly recognized threats, the Pombo bill would impose a requirement impossible to fulfill.

Both bills would impose significant new procedural requirements that would make it virtually impossible to meet many of the statutory deadlines prescribed by the ESA. For example, both bills require additional independent reviews and new Federal Register notices for listing decisions and jeopardy determinations under Section 7 of the ESA. Both listing decisions and Section 7 consultation requirements are subject to statutorily prescribed deadlines. It is worth noting that a very large portion, perhaps most, of recent Endangered Species Act litigation is due to the government's failure to make listing and other decisions within the statutorily prescribed deadlines. Indeed, the administrators of the Endangered Species Act in both the Clinton and Bush administrations have decried the fact that their agendas have been driven by litigation, much of which consists of various deadline suits. The new procedural requirements of these two bills virtually guarantee that the government will miss even more of its statutory deadlines, thus exacerbating the very problem that has vexed the current and former administrations.

Each of the above problems could, I presume, be fixed by better-informed and more careful drafting. However, the end result would still be a pair of bills that fail to address the central needs for well-informed decisions and an effective Endangered Species Act. For the former, the central need is adequate resources to generate more and better information about imperiled species, their needs, and the likely impacts of human activities upon their survival prospects. For the latter, the central need is a set of significant incentives for landowners to cooperate with endangered species conservation efforts. These bills provide neither.