# SCIENCE'S COMPASS

future except from natural gas or other fossil fuels. Until hydrogen can be obtained economically from water by means of solar energy or nuclear power in huge quantities, there is no point in talking about hydrogen to replace fossil fuels in cars.

I strongly support research on solar energy-derived hydrogen and other solar programs. However, for Abraham to give up on the PNGV program is shortsighted. The goal of the Freedom CAR programor as Abraham calls it, his "dream car" (1)—is truly just a dream.

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- References and Notes
- 1. S. Abraham, "Dream car made real," New York Times, 20 January 2002, section 4, p. 12.

# What Counts in Conservation?

A RECENT COURT DECISION COULD REQUIRE hatchery fish to be counted as part of the populations of wild, imperiled salmon when assessing conservation numbers

(News of the Week, "When is a coho salmon not a coho salmon?" by J. Kaiser, 30 Nov., p. 1806). The decision imperils many efforts to protect ecosystems. Rather than merely blaming the courts, it might be wise for scientists to consider how their own behaviors contributed to this state of affairs.

Through institutional narrowness and reductionism in science itself, ecology has been effectively restricted to biology. which in turn confines the problem of ecosystem loss to matters of fish production. With the more complex and contentious problems (cumulative loss of ecosystems over time) reduced to more manageable measures (fish production), the stage was set for a series of technological fixes, including the production of fish through the use of hatcheries. Arguing over the skill of hatchery fish (to forage and avoid predators) merely sets the stage for more refined technological fixes, such as changing the design and operation of hatcheries.

In contrast, the purposes of the Endangered Species Act of 1973 are "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved." Wild

salmon are telling us that these ecosystems are not being conserved.

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# CORRECTIONS AND CLARIFICATIONS

THIS WEEK IN SCIENCE: "Keeping blood pressure low" (18 Jan., p. 403). This summary of the report "Abnormal vascular function and hypertension in mice deficient in estrogen receptor  $\beta$ " by Y. Zhu *et al.* (p. 505) misrepresents the results of the research. An appropriate description is as follows. Zhu et al. examined vascular function in mice lacking the  $\beta$  form of the estrogen receptor (ER $\beta$ ). In normal wild-type mice, estrogen attenuated the constriction of blood vessels by an  $ER\beta$ -mediated increase in the expression of inducible nitric oxide synthase, with consequent increase in the production of the vasorelaxant agent, nitric oxide. In the animals lacking the ER $\beta$ , in contrast, estrogen augmented vasoconstriction. These animals also developed hypertension as they aged, which may yield new insights into the treatment of hypertension, particularly that associated with menopause.



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