through" of contamination might occur, he says, is through a sudden and massive shift to greater acidity in the soil. He cannot imagine that happening, and he sees no threat to public waters.

The point, Connor says, is not that public health is in danger, but that the traditional complacency about the environment at Hanford is no longer acceptable. Furthermore, he argues, 40 years of haphazard experience is not a good basis on which to make a 10,000-year prediction.

Hanford officials are anxious about the future, not only because of the many new tasks they are being given, but because of those that may be taken away. The N-Reactor, the last operating production reactor of the nine that were built, has been shut for safety improvements since January. DOE does not expect to get it running again until November. There is talk in Congress of closing it for good. If Hanford stops making plutonium, some say, it will lose its reason for being. That will not be good for the environment, according to William Jacobi, the president of the Westinghouse Hanford Company.

Jacobi takes over as chief contract manager of Hanford for DOE at the end of this month. He was quoted recently as saying: "In terms of a major investment in environmental cleanup, I think that will happen only if we can get the defense mission continued."

Members of Congress who are pressing to have DOE spend more money on cleaning up Hanford disagree. They see no need to make environmental concerns subservient to the military mission. Representative Ron Wyden (D–OR) calls this view "bizarre" and "typical of the thinking that has led to the problems that exist today."

And yet, the old hands may be right that if the glamour of weapons work is missing, it may be very hard to find the $5 billion, or $10 billion, or $100 billion that will be needed to reclaim this historic patch of land. ■ ELIOT MARSHALL

Supreme Court Strikes Down "Creation Science" Law as Promotion of Religion

The U.S. Supreme Court on 19 June delivered the coup de grace to Louisiana's Balanced Treatment Act, which sought to require that so-called "creation science" be given equal time with the teaching of evolution in the state's public schools.

The court agreed with two lower courts that the law "advances a religious doctrine by requiring either the banishment of the theory of evolution from public school classrooms or the presentation of a religious viewpoint that rejects evolution in its entirety." As such, it violates the First Amendment's prohibition on state promotion of religious beliefs, a majority of the Supreme Court justices concluded.

The ruling is the culmination of a 6-year legal battle that began when the Louisiana legislature approved the Balanced Treatment Act in July 1981. The law was carefully crafted in an effort to avoid the constitutional problems that eventually sank a similar Arkansas law in 1982. The Louisiana law required the teaching of the scientific evidence for creation alongside the teaching of evolution, and mandated that both be taught "as a theory, rather than as proven scientific fact."

In the end, however, the Louisiana law suffered the same fate as the Arkansas statute. It was struck down by a federal judge in January 1985 on the grounds that the teaching of "creation science" would be tantamount to the teaching of a particular religious belief. His ruling was upheld by a three-member panel of the Fifth Circuit Court of Appeals later that year and the full appeals court subsequently narrowly rejected a motion to hear an appeal of the panel's ruling. The case then ended up in the Supreme Court.

Seven of the nine justices agreed that the law's "primary purpose was to change the science curriculum of the public schools in order to provide persuasive advantage to a particular religious doctrine that rejects the factual basis of evolution in its entirety." The law was therefore judged clearly unconstitutional.

Chief Justice William Rehnquist and the court's newest member, Antonin Scalia, disagreed, however. In a lengthy dissent written by Scalia, they argued that the merits of the case had never been fully aired during the law's odyssey through the lower courts, and suggested that it should be sent back to the appeals court for further consideration. Scalia wrote that the majority's opinion rests on an "illiberal judgment," and called it a "*Scopes*-in-reverse."

The Supreme Court's ruling is expected to put an end to efforts to force the teaching of creationism through state laws. It will, however, do little to quell disputes over the selection and content of school textbooks, which is now the chief battleground over the teaching of evolution. ■

COLIN NORMAN

Plant Science Grant Program Nears Approval

After several years of planning, a new Plant Science Centers program is being initiated by the National Science Foundation, the Department of Energy, and the Department of Agriculture. Formal approval of the competitive grant program is likely in August and a solicitation could appear before 1 October.

The stated aim is to enhance the competitive position of American agriculture in world markets and to improve the production of renewable resources such as trees. Federal officials recognize that, to achieve this goal, the research community needs to better understand the structure of plants, control mechanisms related to growth and development, and how to limit unwanted environmental effects.

At the outset, the program will be funded with about $10 million, assuming that Congress concurs. This is only a small fraction of the $50 million that the Office of Science and Technology Policy envisioned 18 months ago when it first conceived of the program (*Science*, 17 January 1986, p. 212). The new initiative is meant to augment ongoing research in federal agencies and fledgling efforts such as NSF's biological centers program. But some existing plant research will be supported under the new plant program. Multidisciplinary research in complex carbohydrates, for example, would cease to be funded separately by DOE beginning in fiscal year 1988.

Grants will be made on the basis of peer review by NSF and the departments of energy and agriculture. The chief criteria are: the importance and uniqueness of the research; the prospect for merging training and research activities; and additional support that the applicant, industry, and other state or federal government agencies may provide. Industry and/or state involvement in projects can be in the form of joint research, providing equipment and supplies, or direct funding.

Areas of research that are eligible for grants include: plant biotechnology, microbial ecology, ecological processes, and rhizosphere dynamics. Other areas of plant science, especially areas of neglect, or pressing research problems will be considered. Awards are expected to range from $500,000 to $2 million per year for up to 5 years. In certain instances, a portion of these funds may be used to build special facilities to support research outlined in the grant application. ■ MARK CRAWFORD