

# San Joaquin Flooded with Water Researchers

## *Environmentalists link up with an irrigation district to propose a desalting plant for removing agricultural wastes*

A crusader against federal water projects, the Environmental Defense Fund (EDF) of California, got a water project of its own from Congress this session. The energy and water appropriations bill, which was signed into law on 1 November, specifically promises EDF a \$250,000 slice of a large water research program\* to be run in the San Joaquin Valley.

The award will pay EDF to analyze a high-tech plan for cleaning up agricultural drain-water in central California. This water, tainted with natural selenium, has poisoned the Kesterson Wildlife Refuge near San Francisco and threatens to damage hundreds of thousands of acres of San Joaquin farmland further south (*Science*, 12 July, p.144).

Winning the award took chutzpah and clever salesmanship. EDF and its part-

10 September, amid congressional negotiations on the water bill.

In the letter, EDF attorney Thomas Graff and Westlands manager Jerald Butchert pointed out that the government will spend \$50 million to research drainage problems in California, in a program that "may" have public value, they said. But they found a flaw: the work will produce only recommendations, and these will not be in hand before 1990.

Meanwhile, the Westlands District and its farm clients face a deadline in July 1986. By then, the Interior Department has ordered, they absolutely must cease dumping selenium-laden irrigation water into a drain that empties in the Kesterson Refuge. This means that the owners of 50 large farms have about 7 months to find a new way to dispose of an annual runoff of 7300 acre-feet.

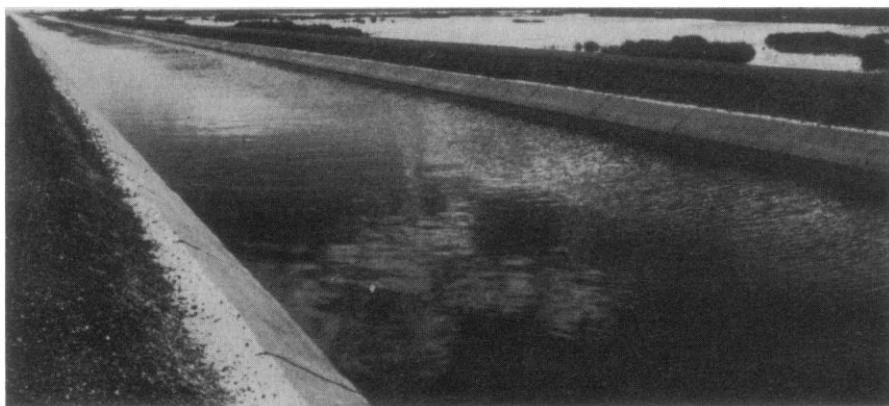
plant. Graff and Butchert wrote: "To bring a sufficiently large plant on line in the time required to keep significant amounts of west side land from going out of production, a 'fast track' coordinated and cooperative approach to the plant's construction is needed."

Congress agreed, without a peep of dissent. It instructed the Bureau of Reclamation to lend \$3.7 million to Westlands to undertake the work right away. (Westlands will repay the loan with fees collected from farmers.) Both California's senators wrote to the Secretary of the Interior stressing the need for urgent action on the EDF-Westlands proposal. The Bureau of Reclamation and others involved in the \$50 million analysis of the options may feel a bit cheated by this early commitment to desalting. If so, they are not advertising it. Graff says that all the key state and federal officials are now "on board."

As the train pulls away from the station, a few questions are left behind. Will this crisis-paced work help the farmers with their 1986 deadline? Clearly it will not. The research contracts probably will not be signed until next year, and the results will not be available for at least a year and a half after that, says Graff. But still, the EDF-Westlands approach will be more "action-oriented" than any other game in town, he argues.

Is desalting so much better than the other alternatives that it deserves the special attention it is getting? There is no definitive answer to this, for data that might be used to make a judgment are inadequate. That is why the government plans to spend \$50 million on research. However, some critics, such as the Natural Resources Defense Council, argue that the most efficient solution would be to quit subsidizing the irrigation systems of the San Joaquin Valley altogether. Rather than pumping in more support, the government could withdraw, causing farms that cannot afford the new price of irrigated water (and cleanup costs) to leave the area. Much of this land is used to produce cotton, a surplus crop, NRDC points out. Reducing subsidy payments to cotton farmers would be an extra savings for the U.S. Treasury.

Will the Environmental Defense Fund lose credibility by becoming a federal contractor? Will it become tied to defending a particular scheme? "I'm not



Joseph L. Medeiros

### ***New Life for the San Luis Drain?***

*Brine runoff water from the San Joaquin Valley now empties into the Kesterson Refuge. A new plan would send it through a desalting plant, maybe to city reservoirs. [Courtesy of Fremontia]*

ner in this venture, the Westlands Water District of Fresno, are usually adversaries, but they got together to write a research proposal this fall. They sent it to the heads of the House and Senate committees responsible for water programs, not to the federal agency in charge. Their letter went into the mail on

EDF and Westlands saw an immediate crisis and an opportunity. They wrote that the "most promising" solution to the crisis would be to remove salt from the drainage water in a reverse osmosis treatment plant. One by-product of this process, brine, will have to be disposed of somehow, possibly by using it in solar ponds for electrical generation. On the other hand, it may be more economical to inject the brine into deep disposal wells. Both possibilities need study. The other by-product, clean water, could be sold to cities for drinking water, EDF believes, helping to finance the desalting

\*The effort is being coordinated by the San Joaquin Valley Drainage Program, a new entity housed in the Sacramento regional office of the U.S. Bureau of Reclamation. It is overseen by a committee chaired by the regional bureau director. Other participants are the state and federal wildlife departments, the state water resources department, and the U.S. Geological Survey.

worried about the reality of it," says Graff, for he says the organization will not compromise its standards. "But I am a little worried about the perception that others might have."

That is a short list of questions. A longer and sharper list might be posed by a review committee<sup>†</sup> of the National Academy of Sciences recruited to guide the San Joaquin Valley research. The committee has not examined the EDF-Westlands proposal. However, it has

<sup>†</sup>The Committee on Irrigation-Induced Water Quality Problems of the National Research Council is chaired by William Allaway, a visiting fellow in agronomy at Cornell and former soil research director for the Department of Agriculture.

just finished a review of the bigger program centered at the Bureau of Reclamation.

On 10 October, the committee issued a quietly scathing commentary. It begins with the tart observation that, "Failure to assess the problem explicitly in advance wastes time and multiplies effort. This appears to be happening to a degree in the San Joaquin Valley drainage studies." The group reported that it found overlapping research proposals, inadequate control by the oversight committee, and little substance in the Bureau of Reclamation's research agenda. The list did not end there. Some of the other

items cited were: an inadequate staff, insufficient public communication, poor planning for data analysis, no guidelines for quality control of samples, a lack of clarity in the wildlife research plan, inattention to public health dangers, "woefully inadequate" provisions for studying social and economic impacts, no discussion of waste disposal options and "no substance" in plans to study on-farm management of wastewater.

The entire critique is only 11 pages long, making it a model of efficient communication. The EDF-Westlands program might benefit from the same kind of constructive review.—ELIOT MARSHALL

## Archeology Congress Threatened

*American and European scholars have resigned from next year's World Archeology Congress as a result of a ban on South African participation*

The 11th World Archeological Congress, due to be held in Great Britain next fall, is facing a major crisis as a result of a recent decision to deny attendance to anyone working in South African institutions, irrespective of nationality. News of the national committee's decision, which was taken belatedly and without consultation with the appropriate international body or session organizers, has provoked many prominent scholars in the United States and Europe to resign from the Congress in protest. A campaign, initiated in this country, is now being mounted to inform all participants of these developments and to encourage further protests.

If the national committee were to reverse its decision, which seems unlikely, it is now clear that the issue has become sufficiently politicized that some participants, mostly in Britain, would resign to protest South African inclusion. This is ironic, because the original invitation to researchers from South Africa had inspired no adverse comment from the archeological community. Pressure to prevent South African representation came exclusively from outside organizations, including the Association of University Teachers (AUT), the Anti-Apartheid Movement, and the City Council of Southampton, whose university is to host the gathering.

Those who are protesting the national committee's decision describe it as a violation of the principle of the free circulation of scientists and scientific

ideas, which, for instance, is embodied in the guidelines of the International Council of Scientific Unions (ICSU). Desmond Clark, of the University of California, Berkeley, wrote the following in his letter of resignation to Peter Ucko, national secretary of the Congress, which reflects what many other participants are saying: "The Executive Committee's decision amounts to a slur on the hitherto enviable reputation of Britain which has always stood out for full and free exchange of ideas between scientists, irrespective of the policies of their governments."

By contrast, those who support the decision as a matter of principle argue that political developments in South Africa have now reached a stage where a strong stand is important. "Academia is not apolitical," says Ian Hodder of Cambridge University, England. "It is a political statement to have South African participation at an international meeting. And to have a ban of this sort is the best way to force people in South Africa to change the system from inside."

The national committee appears to align itself with this sentiment, by stating that it is following Unesco guidelines "to refrain from cultural or academic interaction with South Africa." The committee also noted that, while it supported the principle of academic freedom, "South Africa, and its apartheid regime, placed it outside all normal principles and regulations."

In fact, the committee's decision was

one of pragmatism, not principle, made in a situation that was forced upon it in part because of meager financial resources. By contrast with the most recent congresses, in Mexico City in 1981, and in Nice in 1976, which each received generous government financing, the British gathering is to be funded principally by private sponsorship and an ambitious publications program that will derive from the scientific sessions. Ucko and his committee have received enormous praise from all sides for their obviously very successful entrepreneurial effort in what are clearly difficult circumstances.

In addition, the scope of the scientific programs and involvement of a large number of Third World and Fourth World (indigenous peoples) participants has been heralded as a great achievement, which would be of enormous benefit to the scholarship and integration of the archeological community. Indeed, ironically enough, the First and Second Announcements of the Congress, penned in 12 languages, proclaimed that "This meeting . . . is to be a truly international one." Many prospective participants failed to notice that, when the Third, and final, Announcement arrived just a few weeks ago, the international flavor had been somewhat diluted by the omission of scholars from South Africa who previously had been billed as session organizers and participants.

The shift had occurred during the late summer, when the national committee was approached first by the local chapter