MOUNT GRAHAM TELESCOPE

# Red Squirrels 2, Astronomers 0

A federal appeals court last week dealt another setback to the University of Arizona in its plans to build a $60 million Large Binocular Telescope (LBT) on an environmentally sensitive site on Mount Graham in southern Arizona. The 9th U.S. Circuit Court of Appeals in San Francisco, in a 2-to-1 ruling, agreed with a lower court judge that the university cannot build the telescope on its planned site without first conducting environmental and biological studies of the impact on local ecology, including the endangered red squirrel. That process could take more than 2 years, according to some estimates.

Opponents say the ruling means the university must abide by existing federal environmental laws if it wants to build the LBT, a joint project with the Arcetri Observatory in Italy; the Research Corporation of Tucson, Arizona; and Ohio State University. (Two other telescopes have already been built and are operating at the site.) A 1988 law exempted the university from conducting studies required by the National Environmental Policy Act and the Endangered Species Act for the three telescopes, but the appellate court ruled that the exemption did not apply to a new site, a quarter mile east of the original site, that the government and university chose, ironically, to minimize disruption to the squirrel's habitat.

"What the court is saying is that the special breaks are off and we go back to the basic process that everybody else has to follow," says Washington, D.C., attorney Eric Glitzenstein, who represents a coalition of environmental groups that filed suit in May 1994 after the university cleared 1.5 acres at the new site. The project's backers are naturally disappointed. "We thought we had a strong case," says astronomer George Rieke, deputy director of the university's Stewart Observatory. "We moved there at the request of the government. ... We just want to build one of the world's most advanced telescopes, and now we're facing another big delay."

The ball is now in the university's court, and Sharon Kra, a spokesperson for the president's office, says there are three primary options. One is a request to the entire appellate bench, submitted no later than mid-June, to review the case. However, Glitzenstein says such reviews are usually granted only in cases of "broad legal applicability," which this case doesn't have. In the meantime, the university could begin the necessary studies by asking the U.S. Forest Service to obtain a biological opinion from the U.S. Fish and Wildlife Service about the impact of building the telescope at the new site. Glitzenstein says that could be done in 3 months, although Arizona officials say they have been told it would take at least 2 years. A third option would be to go back to the original site, but Glitzenstein notes that space there might now be at a premium: Under the 1988 law, the telescopes cannot disrupt more than 8.6 acres on the mountain peak, and 1.5 acres have been cleared at the current site.

Astronomer Buddy Powell, associate director of the Stewart Observatory, admits the ruling "leaves us in a quandary." Scientifically, Powell says the project remains on track. The university has $40 million lined up, enough to build one of the two mirrors, and Rieke notes that "we'll go forward with one mirror if we have to, although we're hoping to get the rest of the money for both mirrors." At the same time, Powell admits that older scientists like himself are beginning to worry about whether the telescope will ever be finished. "Somewhere, someway, somehow, we're going to build it," he says. "The question is, where and when? Some of us can't wait much longer."

–Jeffrey Mervis

LORI STILES

**Room at the top?** Near the LBT's planned site, Germany's submillimeter telescope looks across the mountain at the Vatican Advanced Technology Telescope.

BIOMEDICAL REGULATION

# FDA Puts the Brakes on Xenotransplants

The Food and Drug Administration (FDA) has signaled that it intends to regulate the transplant of animal organs into humans—and in so doing has put itself on a collision course with AIDS activists. On 27 April, the FDA suspended plans for a clinical trial to determine whether transplants of baboon bone marrow can repair the devastated immune systems of AIDS patients. FDA's concern: Such xenotransplants might enable animal viruses to infect humans, potentially unleashing a pandemic as devastating as the disease they are trying to cure. Martin Delaney, founding director of San Francisco's influential AIDS activist group Project Inform, immediately objected to FDA's move, characterizing it as "comic-book hysteria."

Despite such criticism, the action indicates that FDA is likely to take a close look at other experiments designed to pave the way for using animal organs to overcome the dire shortage of human organs available for transplant (*Science*, 18 November 1994, p. 1148). Transplant surgeons fear that FDA's involvement could slow down advances in the rapidly evolving field of animal-to-human transplants, or even bring them to a halt. FDA regulation "could stop [transplant] science cold," says transplant surgeon Ira Fox of the University of Nebraska in Omaha, although, he says, "it could be a good thing; ... it could help get the data [on viral transmission] we need."

As it wades into the transplant business, FDA is reaching uncharted regulatory waters. Until now, new surgical procedures have required approval only from local Institutional Review Boards (IRBs) and other institutional panels. But FDA officials decided to act when they learned that AIDS physicians Steven Deeks and Paul Volberding of the University of California, San Francisco (UCSF), and transplant surgeon and immunologist Suzanne Ildstad of the University of Pittsburgh had gotten the go-ahead from UCSF's IRB to transplant baboon bone marrow into AIDS patients. FDA asked the researchers to attend the 27 April meeting, where it became clear, says Deeks, that FDA was requesting that his team formally apply for an Investigational New Drug (IND) approval—just as if the bone marrow were an untested new drug.

Baboons are resistant to HIV infection, so the UCSF-Pittsburgh team, which had intended to start the trial as early as last month, aimed to find out whether transplanted baboon bone marrow—the source of immune cells—could help repair immune systems damaged by the AIDS virus. But FDA fears that the baboon cells may carry viruses that are harmless to their natural baboon host, but which pose an unpredictable and potentially devastating threat to the human population. "It's become clear to the agency ... and to the rest of the Public Health Service that not enough discussion has taken place about the possibility of a pandemic occurring because of the use of baboon tissue," says Philip Noguchi, head of FDA's Division of Cell and Gene Therapy, which seeks to regulate animal organ transplants.

By asking the Volberding-Ildstad group to apply for IND approval, the FDA effectively imposed a long delay on the experiment, because the approval process will entail, among