edited by RICHARD STONE

ART WOLFE

Rebirth. Gray wolves may be returned to Yellowstone Park.

Suit May Stall Yellowstone Wolves

If federal wildlife officials have their way, the howls of gray wolves will soon be heard in Yellowstone National Park after a silence of 70 years. But the plan by the U.S. Fish and Wildlife Service (FWS) to reintroduce wolves to the park must first survive the howls of farmers who fear that the wolves will harm their livestock.

The plan is aimed at restoring the ecological balance of the park. In particular, biologists would like to see wolves cull overpopulated herds of elk. "It's about time to get wolves back into Yellowstone," says Dan Pletscher, a wolf expert at the University of Montana. Encouraged by recent successes in returning captive red wolves to coastal North Carolina, FWS plans to begin capturing 15 gray wolves in Canada in late November for release early next year.

Opponents of the project fear the wolves will harm livestock and pets, and they reject as inadequate a provision that allows ranchers to shoot adult wolves in the act of killing livestock, says Richard Krause, attorney for the American Farm Bureau Federation. The Farm Bureau and three state branches have notified FWS of their intention to file a lawsuit after 25 November. They say the plan violates the Endangered Species Act, in part because Canadian wolves are not the same subspecies as the native Yellowstone wolf. But Yellowstone biologist Wayne Brewster says their concerns have been addressed and that, in particular, the U.S. and Canadian wolves "are all basically the same gray wolf."

Agency Spat Snags Pluto Flyby

What began as a ray of hope for planetary scientists has turned into a planning nightmare, caught in the same type of budgetary and administrative hassles that its creators hoped to avoid.

The Pluto Fast Flyby mission was proposed in 1992 by Daniel Goldin, chief of the National Aeronautics and Space Administration (NASA), as an antidote to the costly, time-consuming, and overly bureaucratic missions of the previous two decades. The Flyby, actually two small spacecraft to be launched in 2001, would arrive at Pluto and its moon, Charon, around 2008 with the help of a nuclear-powered generator built by the Department of Energy (DOE).

But DOE says a tight budget will force it to shut down its generator program, which built power sources for other NASA missions to the outer planets, unless NASA foots its research bill. (NASA historically has always paid for the finished product.) However, NASA doesn't see it that way. "We have no interest in paying for DOE's infrastructure," says Wes Huntress, NASA's space science chief. "It's DOE's responsibility to build these devices as long as there is a need." One option that NASA has yet to consider is using a Russian version of the generator.

The power source isn't the only problem facing Flyby. Goldin also wants Pluto scientists to slash the $600-million cost of the mission by two-thirds and to increase Russia's role in the project. Those new marching orders have mission designers down in the dumps. "They are almost at the breaking point; they don't know if they can [get the mission's cost] much lower," says one official. But Huntress remains confident that he can win approval in the next 2 or 3 years. "We don't intend to abandon the outer solar system," he says.

Science Board Weighs Higher LIGO Cost

The laser interferometer gravitational-wave observatory (LIGO), which could be watching for signals from massive objects in deep space as early as 2001, is already registering effects from a nearby source: its own rising costs. This week the National Science Foundation (NSF) is expected to decide whether it can afford LIGO in the face of revised estimates that are at least $40 million higher than the current $250-million price tag for the project, now being built at sites in Louisiana and Washington state. The National Science Board, which oversees the foundation, was expected to announce its decision on Friday after spending several hours in executive session reviewing the figures.

The new estimates were prepared by a team led by physicist Barry Barish of the California Institute of Technology. Barish took over as project director earlier this year (*Science*, 11 March, p. 1366) after NSF and Congress had raised questions about the management ability of the previous head, Caltech physicist Rochus Vogt. The project's 1994 construction budget was suspended pending a complete review, although Congress has since restored those funds and approved $50 million for this year. The new estimate assumes a larger project staff and more money for the interferometers.

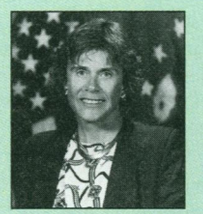
At issue for the science board, says program committee chair John Hopcroft of Cornell University, is whether NSF, in a tight budget climate, can afford to build and operate LIGO and several other large research projects without crippling its ongoing research programs. LIGO's supporters argue that the project is now in good hands, that the new figures are "the first really serious cost estimate," and that the science is worth the investment. In addition to paying for the construction, however, NSF must find an estimated $12 million a year to operate the detectors.

Scientists to Design Sleeker Air Force

The "cheaper, faster, better" mantra at the National Aeronautics and Space Administration may soon catch on with another class of federal fliers. The Air Force's Scientific Advisory Board (SAB) plans to conduct a sweeping study of high-tech areas where the military can collaborate with industry and save money.

"Let's identify the areas where we are not the innovators but the customers," says Air Force Secretary and aeronautics engineer Sheila Widnall, who requested the 1-year study at an SAB meeting last week. Board members immediately began tossing out ideas. For instance, Massachusetts Institute of Technology aeronautics and astronautics professor Eugene Covert urged a greater focus on understanding the interface between humans and machines—an important factor in cockpit design. "We need to present data [to pilots] in a more effective way," he said. SAB member Michael Yarymovych, a vice president at Rockwell International, says the Air Force needs to overhaul glacial procurement procedures that prevent it from taking advantage of industrial advances.

Although the Air Force has commissioned such long-range reports every decade or so, Widnall promises that this one won't gather dust on a shelf. And SAB members believe her. "Senior management in the Air Force and Defense Department has never been so scientifically and technically aware," says John Darrah, former chief scientist for Air Force Space Command.



New study. Widnall wants a high-tech Air Force.