

Department too, reportedly without even consulting NFS, introduced a staff report recommending changes in national forest policies with increased cuts. Inevitably the cheapest method of clearing the timber—clear-cutting—has been used increasingly.

Last year, in the West, 30 percent of national forest harvest area was clear-cut, for 60 percent of the timber volume. In the East, 40 percent of the harvest land was clear-cut for 50 percent of the yield. Meanwhile the Administration impounded \$52 million from NFS' 1973 budget of \$561.8 million and then trimmed an additional \$117 million from its 1974 budget request—while ordering the service to increase national forest cutting 11 percent. As a result, the service has had to close some recreational areas, despite a 5 percent a year increase in their use. "This is quite a traumatic experience for us," one NFS ranger complained. "It's sheer lunacy!" snapped a timber industrialist.

As if America's foresters did not have enough problems, 1973 has been a particularly bad year for fire and insects, which annually claim more timber in the United States than is cut from national forests. In the East, the gypsy moth is devastating hardwoods, and in the West some of the worst fires in history are sweeping through dry timber ravaged by the bark beetles and the tussock moths.

The infestation of tussock moth, centered in the Blue Mountains of northeast Oregon, points up some of the dilemmas now facing forest managers, environmentalists and the Forest Service. Until recently, DDT was used effectively to control periodic outbreaks of the moth, but the chemical is now prohibited except with special permission from the Environmental Protection Agency. After urgent pleas from Oregon's governor to allow DDT use—pleas alternately supported and resisted by various factions of the Forest Service—the EPA decided against granting special permission, saying the pestilence would run its course as natural enemies took their toll of the moths.

Bitterly calling the crucial NFS recommendations "double talk," the Oregon state director of insect and disease air operations, Al Larsen says, tests so far indicate no substantial rise in the occurrence of the tussock moth virus that usually limits infestations to three years. He maintains that amounts of DDT as small as one pound per acre (compared with the 10 to 15 pounds per acre often used in agriculture) could help control the moth. Without it, he says, several hundred small landholders would be wiped out as their land decreases in value by half through loss of timber. He also reports some black market use of DDT.

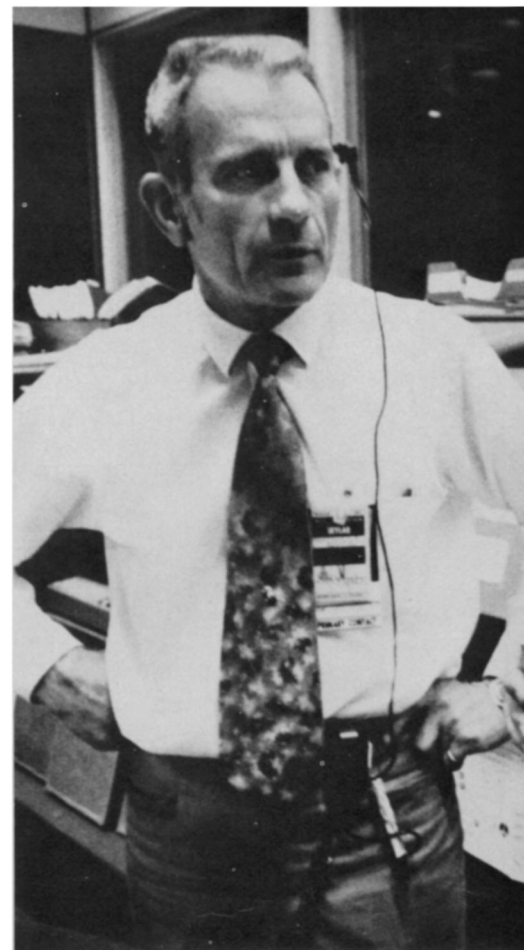
A representative of the Boise Cascade Corp., the largest timber owner affected, complained that environmentalists had blocked salvaging of the dead timber by litigation over road building. Without salvaging, the forest would be ripe for total devastation by fire, he said. A poll taken of some 2,000 local residents showed about 98 percent of them favored using DDT. One resident wrote to the La Grande (Ore.) Observer: "The fires will come, and my cabin will be burned, and I will be gone, also, like the silly environmentalists want me to be!" [Ed. Note: As this article was in preparation, fires began devastating the area around La Grande].

A new independent study points the way toward a new timber-management policy that may help to relieve some of the problems associated with American forestry. The report by the National Commission on Materials Policy of the National Academy of Sciences and National Academy of Engineering emphasizes the need for more knowledge. "What is good practice in one place may be harmful elsewhere," NAS President Philip Handler advised; "Many of the forest management decisions are now perforce made in ignorance." As recent market swings indicate, knowledge of the economics of timber management is also inadequate, with many hidden costs such as soil erosion and silting of streams and lakes. Direction of national forest policy must be handled by a multidisciplinary group, the report concluded, with an input from ecologists, political scientists, economists and climatologists, as well as foresters.

Timber management decisions, the panel concluded, "must be made in the context of overall land use planning." Laws governing land use must be flexible, since "blanket prescription of environmental practices can lead to land management debacles." Enforcement should be based on monitoring a timber operator's own quality control system. Research must be conducted into the environmental effects of different logging practices, especially in view of recent indications that clear-cutting may remove potassium and phosphorous from the soil faster than nature can build them up. Finally, the United States must work with other nations to foster conservation on a global scale, since many tropical soils cannot support the kind of intensive cutting now practiced in temperate zones.

Though charging that the main institutional obstacle to forest growth investment is Federal miserliness, the report concluded optimistically that "we know enough to devise programs of public regulation of cutting practices that will be both effective and flexible."

Smokey Bear and Paul Bunyan can both cheer for that. □



Chief astronaut D. K. (Deke) Slayton.

A DECADE-LONG WAIT

A man with a mission

Skylab takes most of his time now, but Deke Slayton studies Russian, Soyuz

Deke Slayton is one of those rare men who in spite of fame and its pretentious trappings, is disarmingly honest and straightforward. Unlike some of the other astronauts, he does not appear to be taken up with his own self-importance or the importance of his job. He gives no speeches and makes no appeals to flag or country to justify his love of flying or his desire to go into space.

As first a pilot, then one of the original seven Mercury astronauts (the only one who has not flown in space), and, since 1963, director of astronaut selection and training, he has been at the center of the manned space flight for 14 years. Through all the hubbub and flap of White House visits under three Presidents and the attention of

the world press during the moon landings, Slayton has remained—in many respects—very much the farm boy from Wisconsin.

Among the astronauts, he is known as a tough master, expecting and getting high performance. He is also known for being blatantly blunt.

His most vocal critics have been some of his own men—astronauts Slayton has chosen not to send into space for one reason or another. These men have usually resigned from the program. Slayton has always maintained that he has had too many astronauts and not enough space missions—a condition that has worsened yearly as NASA's program has undergone steady cuts (SN: 4/3/71, p. 234 and SN: 6/20/72, p. 374). His bosses at NASA, however, have always stood behind Slayton and his selection of astronauts for missions. "He's never made a mistake yet," says one.

His calm demeanor in mission control during emergency situations in space, like the Apollo 13 abort and some of the problems in recent months with Skylab, is of a man accustomed to a life-time of high-pressure risks. His flying experience includes 63 bomber missions over Germany and Japan in World War II and three years as a test pilot at Edwards Air Force Base in California.

He is determined and stubborn—a "bull-headed Norwegian," he admits. But he has also exhibited unusual patience over the last 12 years, and in many crucial situations, a willingness to compromise. Some consider him cold, insensitive and impersonal in his relationships. Others find him warm and understanding.

During his 14, sometimes traumatic, years with NASA, four events in his personal life (which he rarely discusses), stand out: the day in 1959 when he was selected as one of the first seven Mercury astronauts; the day in 1962 when he was told two months before his scheduled Mercury 7 flight that a high-level decision had been made to ground him; the day in 1972 when he was placed back on flight status, and the day early this year when Christopher C. Kraft, director of the Johnson Space Center (JSC), selected him to fly on the Apollo-Soyuz Test Project (ASTP), the U.S.-Soviet joint manned mission in 1975 (SN: 2/3/73, p. 71).

What happened to change the course of his life 11 years ago is a familiar story to those who have been following the space world. Slayton was grounded after much ado and an incredible round of physical tests and examinations because of an irregular heart beat, called atrial fibrillation.

Doctors didn't know then, and don't know now, what caused it. "I was

fighting city hall, but until I could find out what caused it, I had a problem." The irony was that the irregular beats didn't seem to incapacitate him—or even bother him. They came at first about once a week and he was aware of them. Running stopped the irregularity. So he saw no reason to be grounded. Neither did the Air Force at the time (he was a major). A medical review board passed him. NASA doctors had known all along about the condition and were not concerned. Other doctors, however, introduced themselves into the situation. The upshot was that the outside forces caused NASA to review its position. Slayton was called from Cape Kennedy to Washington and told he wouldn't fly.

It now appears the doctors were overly cautious—both about the dangers of space flight to man and about Slayton. "There wasn't any question in my mind that it was wrong from day one. There weren't any questions in a lot of other people's minds either. But it took a little longer than I expected to prove it. Like 10 years."

What has happened to change the picture? Doctors now know that the space environment is not as hostile to man as expected. Weightlessness does take a toll on the bodily systems, in-

OFF *the* BEAT

cluding the heart and the entire cardiovascular system, but so far the effects have been temporary (SN: 7/7/73, p. 7). Also in the interim, NASA has matured, along with its capabilities. A shuttle, for example, is being built which can take anyone into space. Most important, Slayton's condition seems to have changed.

The irregular beats used to occur about once a week, then about once a month. He was due for some irregular beats during the abort of Apollo 13. They didn't come. "I waited four months and still nothing," he recalls. The problem just went away.

Convincing the world of his condition wasn't all that easy, however. With the help of Charles Berry, director of life sciences for NASA, Slayton was put in contact with Harold Mankin, a heart specialist at the Mayo Clinic. In spite of the risk, Slayton was willing to undergo an angiogram, which involves cutting into an artery and putting a catheter into the heart. That was in December 1971. Mankin found nothing wrong. He gave Slayton a clean bill of health. In March 1972, Slayton was placed back on active flying status. In January of this year, NASA gave him a long-awaited "go" for space.

"Of course, I guess I felt I was as competent as anybody else [all along] to command every flight that has flown since. I missed them all, so that's been a thorn, obviously," he says of his wait. But there's another side to the coin and he knows it. "I was equally as qualified to hit Ted Freeman's goose (Freeman's T-38 hit a goose, and he crashed and died), have C. C. Williams' bum airplane (Williams crashed over Florida), or be in spacecraft 12 in place of Grissom, Chaffee and White (all three men were burned to death). So on the balance I think I've been pretty fortunate."

Physically he still looks as fit as he did 13 years ago—crew cut hair and all. He's in good shape and runs two miles daily. But when he makes the flight in 1975, he will be the oldest U.S. astronaut to fly—51. "I've always been a slow starter. For some people life begins at 40 and for me it's going to be more like 50. I guess I'd rather be a 50-year-old rookie than a 50-year-old has been." Neither he nor NASA is worried about his heart. "More is known about my cardiovascular system than anybody's in the world."

Between now and that space flight are two years and a lot of work. The astronauts' training, or familiarization, will begin in Moscow this fall (SN: 8/4/73, p. 78). Slayton is studying Russian, but admits his is not very good yet. "I don't speak very good English to begin with." He knows enough Russian to carry on a conversation with the cosmonauts, who know a little English. "Their English is better than my Russian," he says. "We fill in for each other and come up with hybrid sentences." (During the recent visit of the cosmonauts to Houston, he and several other astronauts took the cosmonauts fishing in the Gulf).

Skylab is now consuming his time. He will be working at least 12 hours a day on the Skylab mission until its conclusion late this year or early 1974. Then the pace of his own training will pick up.

In the meantime, he is not getting overly enthusiastic. "I was in the same relative position about 12 years ago in relation to a flight and got dropped off it about 11 years ago. I guess based on past experience, I am not going to display any raucous enthusiasm until I hear somebody tell us that we're go for the first orbit. At that time I'll probably express myself."

After the mission with the Russians, he hopes to continue flying. "I'm here to fly. That's what I love the most and what NASA hired me for to begin with. I guess when there comes the time I can't do that, I may as well go play golf or something."

—Everly Driscoll