provide wildlife habitat ("good range improvement should be synonymous with good wildlife habitat improvement —and shrubs are a central concern of both"). They stabilize soil ("soil scientists and engineers . . . have neglected untold opportunities to obtain greater variety in color, shape and form" by using grass instead of shrubs to stabilize slopes and cover denuded ground). They "play a key role" in the function of many ecosystems. And they contribute to aesthetics ("the breeding and improvement of woody ornamental shrubs is one of the most promising undeveloped frontiers of plant science").

"Design with nature is the new philosophy," McKell concludes. "There is no reason why it should be necessary to forego the great advantages available by using shrubs if we can understand both their virtues and limitations and develop appropriate strategies to use them properly." □

$30 million allotted for research fellowships

As promised a week earlier, Caspar Weinberger, Secretary of the Department of Health, Education and Welfare, announced this week a $30 million training program of research training fellowships to begin this fiscal year. The fellowships, for young biomedical scientists, will come in the amount of $10,000 each.

The Administration's budget had called for eliminating such aid by awarding no new training grants and fellowships but continuing existing ones through 1977. Biomedical scientists had protested the cutback. The new money will come from already budgeted funds which, Weinberger said, "will not be needed to fulfill existing commitments under the old program. As these old commitments, principally to institutions, fade out over the course of the next three years, additional funds will be added, bringing the (fellowship) program to a total of $90 million."

Most of the new money will go directly to students rather than institutions. □

Aircraft emissions subject of new guides

The Environmental Protection Agency last week issued new pollution emission standards for the nation's aircraft engines, extending the deadline for first application of the standards to new engines from 1976 to 1979 and proposing a program of retrofitting existing engines to bring them into compliance.

The standards represent a reduction of 60 percent for carbon monoxide, 70 percent for hydrocarbons and 50 percent for nitrogen oxides from most large commercial jets, beginning in 1979. Stricter standards will be instituted in 1981. Acting EPA Deputy Administrator John R. Quarles Jr. said the three-year extension of the deadlines represented the agency's judgment that longer lead times than previously estimated were necessary for compliance by the aircraft industry.

To help make up for the extra pollution generated by pre-1979 engines, the agency is proposing a program of retrofitting such engines with emission-control devices as these become technologically feasible. The Air Force and NASA are currently carrying on research projects to develop the necessary technology through contracts with two major manufacturers of gas turbine engines, General Electric and Pratt and Whitney.

In addition to engine emissions standards, EPA announced it was joining with the Department of Transportation in a series of experiments designed to reduce pollution from ground operations of aircraft and auxiliary equipment. □

Ten Soviet cosmonauts in U.S. for training

Wide World Photos

Cosmonaut briefings begin: Astronauts greet Leonov (far right) and Kubasov.

Two years from now, on July 15, 1975, the United States and the Soviet Union will carry out a joint manned space flight. This week a 32-member Soviet delegation, including 10 cosmonauts, arrived at the Johnson Space Center (JSC) in Houston for a two-week session with their American counterparts.

The meetings are the latest in a series of joint management, technical and training sessions that have been in process now for over a year. The last such meeting was in March at JSC. But this session is the first billed as cosmonaut training.

The delegation is headed by Prof. Konstantin D. Bushuyev, the Soviet technical director of the project. (His American counterpart is Glynn S. Lunney of JSC.) The cosmonauts in the delegation include the prime and backup flight crewmen for the mission. The prime crewmen are Aleksey A. Leonov, who performed the first "spacewalk" during the Voskhod 2 mission in 1965, and Valeriy N. Kubasov, who was a crewman of the Soyuz 6 mission.

The Soviets also have selected a prime crew for a second Soyuz spacecraft, which would be launched if something went wrong with the launch of the prime crew and spacecraft. They are cosmonauts Anatoliy V. Filipchenko, who was on Soyuz 7, and Nikolay N. Rukavishnikov, a crewman of Soyuz 10.

American astronauts for the mission are commander Thomas P. Stafford, command module pilot Vance D. Brand, a space rookie, and Donald K. Slayton, one of the original seven Mercury astronauts. Slayton, who has never flown in space, will be the docking module pilot. Backup crewmen are Alan L. Bean, who will command the upcoming Skylab 2 mission, Ronald E. Evans, veteran of Apollo 17, and Jack R. Lousma, also a Skylab 2 crewman.

Members of the Soviet delegation are attending classroom lectures on the basic elements of the Apollo spacecraft, life and support systems, communications systems, the docking module systems and the basic flight-plan time lines. Specific mission training for the cosmonauts is not planned for this visit, although the cosmonauts will probably enter the Apollo flight simulators at the center.

Members of the U.S. flight crew team will visit the Soviet Union this fall for similar instruction on the Soyuz spacecraft. □