

to back the cases of individuals who are directly affected by proposed projects. It will, however, now be necessary for individuals to put their own feelings to the test of the courts, which naturally requires a strong personal commitment, but the decision may soon be negated by a bill introduced into the Senate by Philip A. Hart of Michigan and George McGovern of South Dakota which would grant the required legal standing to such organizations as the Sierra Club.

Although the decisions by the Supreme Court and the House of Representatives may not be as damaging to the environmental movement as they seem at first sight, the greatest danger to the movement would be a loss of public support. The government's volte face and subsequent confusion over phosphates last year may have sown the seeds for an environmental backlash, but a greater danger would come from a head-on clash between personal luxuries and environmental values, which could arise from power shortages this summer. Last week's markedly reduced support for Earth Week may thus turn out to be the most important indicator of things to come.

SHUTTLE

End of Round One

by our Washington Correspondent

THE space shuttle won its first test of Congressional opinion last week with considerable ease: a move to defer funding for the enterprise picked up only eleven supporters and 103 opponents when it was put to the test in the House of Representatives. The occasion was a debate on the authorization bill for the National Aeronautics and Space Administration which would give the agency a budget of \$3,418 million for 1973—some \$50 million more than the Administration requested—and an increased stake in aeronautical research and development.

Although few people expected the House of Representatives to turn sour on the shuttle—there are too many dollars and lucrative contracts for the ailing aerospace industry at stake for congressmen to vote down the project in an election year—it was approved by a surprisingly large margin. A stiffer test of Congressional opinion will, however, come when the Senate debates the NASA authorization bill that is expected to be reported out of the Senate Committee on Aeronautics and Space Science by the end of April. The project has already picked up some influential opponents in the Senate, including William Proxmire, Edmund Muskie and majority leader Mike

Mansfield. But last year the same forces were defeated by a 22–64 vote in their attempt to delete funding for the shuttle, and this year they will not be able to point to the fact that the project will eventually cost \$12.8 million to back up their arguments about misallocation of resources: NASA has revamped its plans and reduced the cost of the shuttle to \$5,100 million (see *Nature* 235, 68; 1972).

The move to defer funding for the shuttle was led in the House of Representatives last week by Mr Les Aspin, a freshman Congressman from Wisconsin, who is following closely in the footsteps of his colleague in the Senate, William Proxmire. Aspin introduced an amendment to the authorization bill which would have delayed funding for the project for a year to give the National Academy of Sciences time to conduct "a full and complete study" of the shuttle, including its possible cost, scientific applications and economic impact. Aspin questioned the economics of the shuttle, pointing out that if it is to save any money on launch costs, there will have to be a considerable increase in the amount of payload orbited each year. With payload costs running at up to \$20,000 per pound, Aspin argued that the shuttle will eventually add up to a cost of between \$50,000 and \$60,000 million over the next ten or twelve years (an estimate that was backed up by calculations performed by Dr Ralph Lapp and inserted in the Congressional Record by William F. Ryan).

Aspin's arguments cut little ice with his colleagues, however, who argued that economic studies carried out for NASA indicate that the shuttle will save up to \$1,000 million a year in launch costs, and that a vote against the shuttle will be a vote against technological progress. The House of Representatives seems to have accepted the fact that NASA has staked its future on the shuttle, and is willing to let the agency go ahead with its plans.

Apart from the \$200 million earmarked for shuttle development, the authorization bill passed last week by the House reflected and even extended the Administration's avowed policies of stimulating research and development that is likely to provide practical or economic benefits. The funding recommendations increased the Administration's requests for expenditure on aeronautical research and development, while leaving the agency's other activities relatively untouched. The only project to be cut was the High Energy Astronomy Observatory, whose budget was reduced by \$4 million from \$68.6 million.

Although NASA can take some comfort from the fact that the shuttle has survived its first congressional test, its

budget is as yet far from decided. The Senate Authorizations committee has yet to report, and both the Senate and House Appropriations committees, which will recommend the actual amounts of money that Congress will make available, are still in the process of considering the agency's budget.

SOLAR PHYSICS

Future in Doubt

by our Washington Correspondent

COST overruns on NASA's next planned solar physics satellite may have put the satellite in jeopardy, and NASA officials will decide in the next few weeks whether or not to cancel the main contract for the project. If the satellite is scrapped, it will probably signal the end of the orbiting solar observatory (OSO) series of satellites, at least until the shuttle is available to place them in orbit, and it would force satellite-borne solar physics into a period of relative quiescence.

Called OSO-I, the satellite is scheduled for launch in November, 1973, although the launch date may already have slipped to early in 1974. A year ago, three more OSO satellites were planned, but the squeeze on NASA's budget forced the agency to defer decisions on two of them until next year, leaving OSO-I as the only solar physics satellite for which funding has been requested. Although Dr John Naugle, NASA Administrator for Space Sciences said, at a press briefing on the agency's 1973 budget in January "we have definitely not killed OSO-J and K," solar scientists are not optimistic about the chances of getting the satellites, and are therefore looking to OSO-I as the final and most important satellite in the series.

Although NASA officials admitted last week that OSO-I is up for review, they were reluctant to discuss the costs of the project or the likely outcome of their deliberations. Dr Goetz K. Oertel, chief of the NASA solar physics programmes, said that doubts about the future of OSO-J and K have confused cost estimates for OSO-I, but at present the satellite is still an approved programme and planning is going ahead on that basis. But a staff member of the House of Representatives Committee on Science and Astronautics, which has asked to be told in advance of any decision, said last week that he believes cost estimates for the satellite have doubled over the past few months. The committee is understood to have toyed with the idea of increasing authorizations for NASA's solar physics programmes, but decided instead to await results of the review.

Because of the importance of OSO-I