February. Subsequently the bill was watered down a bit in order to gain approval by the full committee. Although Wittwer had not seen the final version when queried by *Science*, he said it still seems to represent "a very well-balanced program" and is "somewhat beyond my expectations—it goes in the right direction."

Wampler, the ranking Republican on the agriculture committee, represents a district that includes many farmers and a land-grant school, the Virginia Polytechnic Institute (VPI). According to his legislative assistant, Wampler became concerned over budget figures he received in early November which indicated that, over a 9-year period, the Department of Agriculture's expenditures for the food stamp program and other "welfare functions" have been soaring upward while spending for agricultural research has not kept pace with inflation. Then, a few days later, the Academy issued the report of Wittwer's board calling for a major upgrading and reorganization of agricultural research to help avert a world food crisis. That report struck a responsive chord in Wampler. After a long talk with Wittwer, the congressman and his staff drafted a bill, presented it to a large meeting at VPI, revised it somewhat, and then introduced it into the House legislative hopper on 19 December.

The initial version of the bill was sent for comment to all deans of agriculture in the country and to numerous others concerned with agricultural research. The bill was modified and reintroduced on 5 February, by which time Wampler had rounded up 29 cosponsors, including Representative Thomas S. Foley (D–Wash.), chairman of the Agriculture Committee, 26 other members of that committee, and Representative Olin E. Teague (D–Tex.), chairman of the House Science and Technology Committee, which had also held hearings on agricultural research. The bill thus had a broad base of support in both parties and in the agricultural research community.

At 2 days of hearings in February, most witnesses endorsed the legislation, some recommended changes aimed at giving their particular constituency a bigger piece of the action, and only the Department of Agriculture opposed it. The chief grounds for opposition were that the funding levels proposed were too high (they've since been lowered) and that many of the provisions were either unnecessary or would restrict administrative flexibility.

The chief provisions of the bill include:

• Creation of a new National Agricultural Research Policy Advisory Board to advise the Secretary of Agriculture on priorities and strategies for research and education. The board would consist of 22 members drawn from a variety of governmental agencies and private organiza-

House Appropriations Subcommittee Cuts $50 Million

Prospects for significantly increased funding of basic research in the coming fiscal year took a sharp knock when a House Appropriations subcommittee decided on 30 April to cut more than $50 million from the total $802 million requested for the National Science Foundation in President Ford's budget (*Science*, 6 February). Basic research funds would bear the full brunt of the reduction.

Official action by the Appropriations Committee will not come until the full committee takes up the bill containing the NSF appropriation in early June, but the committee generally follows the recommendations of its subcommittees. Indications are that the subcommittee, chaired by Representative Edward P. Boland (D–Mass.), made cuts which, in amount and distribution, were roughly comparable to additions to the NSF budget made by President Ford late in the Administration's budget-making process.

If the subcommittee's figures are sustained through the appropriations process, NSF will get a total of $750 million next year compared with an estimated $731.6 million for the current fiscal year. This would amount roughly to a 2.5 percent increase, far from enough to match the pace of inflation. And it would certainly not give basic research a restorative charge, as the Administration proposed in its budget.

The totals for basic research are $610 million in the Administration request and $554 million in the subcommittee bill.*

Until final action is taken, House Appropriations Committee members and staff are traditionally closemouthed—markup sessions in which final sums are agreed on are still closed to the public, in contrast to the general practice in other committees. The subcommittee's rationale for the drastic cuts will, therefore, not be put on the record until the panel's report is published in June. Observers feel that a combination of factors accounted for the action. The 19 percent boost in basic research funds recommended for NSF may, for example, have appeared to be out of line in a tight budget year, despite the limits to growth on basic research funds in recent years. And some conservative members of the committee may have reacted to the criticism of NSF's education directorate in the past year.

Some observers suggest that the House subcommittee's frugality may have been reinforced this year by consciousness of the new congressional budget process, which requires that Congress set spending limits and stick to them. To some extent, the existence of budget committees in both houses poses competitive threats to the appropriations committees, and the impulse to keep a tight rein on spending may be strongest with readily controlled expenditures such as those for research. In addition, Congress seems more disposed to increase military spending this year than in recent years, and civilian science may suffer in the struggle to keep the deficit down.

The new congressional budget act may have contributed at least indirectly to the NSF cutbacks by the subcommittee. The new law requires that Executive agencies provide full documentation of the budget process on request to Congress and NSF was asked to send the committee not only its final budget submissions but earlier correspondence with the Office of Management and Budget (OMB).

This is significant because NSF, like all federal agencies, went through a budget-squeezing exercise last year to comply with orders by President Ford that the agencies cut funding requests to keep the total federal budget under $395 billion. NSF came up with a slimmed-down request for a total of $768.3 million. President Ford, in the final stages of budget-making, concurred with advice from OMB

*Reportedly, in the three main basic research categories, the figures are as follows: mathematical and physical sciences and engineering, $233 million in the President's request compared to $206 million in the subcommittee bill; astronomical, atmospheric, earth, and ocean sciences, $245 million compared to $232 million; and biological, behavioral, and social sciences, $132 million compared to $116 million.

tions, including the National Academy of Sciences, the National Science Foundation, the Agency for International Development, and environmental and consumer groups, among others. The new board would be in addition to the existing Agricultural Research Policy Advisory Committee, a more narrowly constituted group that serves chiefly as a means of communication between the Agriculture Department and the land-grant schools.

• A new competitive grant program that would be authorized to spend up to $15 million in fiscal year 1977 and up to $150 million over fiscal years 1977–79. This could become the first substantial competitive program in the Department's history; most of its research funds are allocated on a formula basis to institutions qualifying under long-standing legislation. The competitive program had been recommended by the Academy and others as a means to improve the quality of research and to attract proposals from investigators who are not normally considered part of the agricultural research network, perhaps because they work at Harvard or Johns Hopkins or Stanford rather than at a land-grant school. The concept was also strongly endorsed by the White House Office of Management and Budget.

• A new program of grants for "mission-oriented research" to be conducted at the land-grant schools, the state agricultural experiment stations, the Tuskegee Institute, and all other colleges and universities "having demonstrable capacity in agricultural research." Most of these grants, too, might well be awarded on a competitive basis, though that is not specified in the legislation. This provision would give agricultural schools that are not part of the land-grant system a greater opportunity to win support for their mission-oriented research.

• A $91 million boost in funding for traditional agricultural research above the originally proposed levels for fiscal year 1977. Whereas President Ford's budget requested $509 million for such research, the House committee authorized $600 million; part of the increase would go to existing research programs and part to the new mission-oriented grants program. This increase, when coupled with the $15 million authorized for the competitive grants program, would put the total amount authorized some $106 million above the President's budget request.

• Creation of a new assistant secretary to perform such duties as the secretary may direct. Proponents of the bill had originally sought to specify that the new position would be an assistant secretary "for agricultural research," but the Department balked on the grounds that it should be free to organize its hierarchy as it saw fit. Some House staffers believe the Department would, in fact, assign one assistant secretary to research and

Plus from Basic Research Section of NSF Funding Bill

and his science advisers that the science budget, and particularly NSF, needed a special infusion of funds because of several years of subsistence budgets. Ford added about $50 million to the NSF budget, concentrated in basic research because that would have the most direct impact on academic science. The House subcommittee, in effect, excised the President's addition.

Congress approves funding through a two-tier system. Authorization committees set spending ceilings and define agency program activities. Appropriations committees of the House and Senate set actual spending levels for agencies and historically have been the places in Congress where competing demands for funds are reconciled.

The House subcommittee action is therefore only one step in the funding process, but it weighs heavily on the scale. Traditionally, the appropriations committees have been more tightfisted than the authorization committees. In recent years the pattern has been for the Senate Appropriations Committee to provide somewhat higher funding for NSF than the House committee and for the final sum agreed upon in House-Senate conference to fall in between.

The Senate subcommittee which handles NSF funds—chaired by Senator William Proxmire (D–Wis.)—has not yet acted on the NSF measure. (Although Proxmire has been sharply critical of NSF management in recent years, his committee has not been especially parsimonious with the NSF budget.)

In the authorization process, NSF has been faring quite well. On 25 March the House passed by a vote of 350 to 33 an authorization bill providing a total $801 million, just shy of the figure requested by Ford. The bill, incidentally, was passed after an uneventful debate compared to last year's when the House passed an amendment by Representative Robert Bauman (R–Md.) which would have given Congress review power over all NSF grant applications (*Science*, 25 April 1975). The provision was later dropped in House-Senate conference.

The House was put into a mood to pass last year's amendment because of criticism by Representative John B. Conlan (D–Ariz.) of an NSF-supported behavioral science course for elementary school students. This year the bill's managers appeared to be forearmed and easily mustered the votes to defeat amendments by NSF critics, including one by Conlan which would have required NSF to provide, on written request of any member of Congress, any information asked for within 15 days.

The Senate subcommittee which handles the NSF authorization—chaired by Senator Edward M. Kennedy (D–Mass.)—on 29 April reported out a bill authorizing a total of $823.9 million. This is about $24 million higher than the House authorization figure and some $74 million above the sum set by the House Appropriations subcommittee. The bill, whose chief sponsor is Kennedy, not only proposes higher funding, but is much broader-gauge legislation than the House measure. The Kennedy bill, for example, would impose a number of management changes on NSF and also includes provision for an $8 million program of federal assistance to state and regional science policy activities. The program was dropped from the science policy legislation recently passed by both houses (*Science*, 16 April).

Kennedy has a broader concept of what NSF should be and do than is currently held by many in Congress, in the White House, and, in fact, in NSF. Some of his bill's provisions may be regarded as bargaining chips, and in a normal year a fair measure of attention would probably be given to examining Kennedy's ideas for expanding NSF's role and responsibilities. This is not a normal year, however. The uncertainties of the new congressional budget regimen and the surgery performed by the House Appropriations subcommittee on NSF funding are likely to keep concern focused on the budgetary bottom line.—JOHN WALSH