Washington, DC, is abuzz with talk about innovation. Leaders in government, business, education, and science are calling for action to enhance the US science and technology enterprise for the 21st century. Both the White House and Congress—the former through the American Competitiveness Initiative (ACI), the latter through numerous legislative proposals—have proffered plans to improve science, technology, engineering, and mathematics education; increase investments in research and development; and authorize federal research programs. As House Speaker Nancy Pelosi (D–CA) has said, “To meet the challenges of today and to create the jobs and economic security of tomorrow, the time to act is now.”

Given that 68 percent of basic biological sciences research is funded by the National Science Foundation (NSF), biologists are taking note that reauthorization of NSF is included in innovation measures moving through Congress. Nearly five years ago, Congress passed legislation that President Bush signed into law authorizing appropriations for NSF through fiscal year (FY) 2007. The National Science Foundation Authorization Act of 2002 (P.L. 107-368) provided a bold framework for doubling funding from the $4.8 billion that NSF was appropriated in FY 2002 to $9.8 billion in FY 2007. As most biologists who have applied for NSF research funds are keenly aware, the agency’s budget—although faring better than those of many federal agencies—has not enjoyed that promised growth. Nevertheless, many in Congress continue to advocate for increased funding for NSF, and are using the need for reauthorization as a vehicle to press for new investments in NSF.

The Senate has included NSF reauthorization within its far-reaching “America COMPETES Act” (Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science), S. 761, recently approved by a wide 88–8 majority. The measure outlines many basic research, education, and innovation programs across a number of agencies, including the National Oceanic and Atmospheric Administration, the National Institute of Standards and Technology, and the Department of Energy. NSF is also included in the measure.

As passed, S. 761 would authorize yearly increases in the NSF budget from the $5.6 billion appropriated in FY 2006 to $10.2 billion in FY 2011. However, S. 761 would require NSF to develop a spending plan, “with a focus on strengthening the Nation’s lead in physical science and technology, increasing overall workforce skills in physical science, technology, engineering, and mathematics at all levels.” This language is borrowed, in part, from the National Academies’ 2005 report Rising above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future. Although specifically mentioning the physical sciences and engineering, Rising above the Gathering Storm also notes that “this special attention does not mean that there should be a disinvestment in such important fields as the life sciences or the social sciences. A balanced investments on specific disciplines.

More important to the biological sciences community, H.R. 1867 does not contain language instructing NSF to focus its investments on specific disciplines.

Some members of Congress also are aware of the value of investment in all fields of science. For example, House Appropriations Subcommittee Chairman Alan Mollohan (D–WV), during a hearing about FY 2008 science funding, queried National Science Board Chairman Steven Beering: “Could you talk about...the imbalances of the funding increases for the various science directorates? What are your concerns about the overall workforce skills in physical science, and engineering research is critical to US prosperity.” This key qualifying language in the Academies’ report is absent from the spending plan provision in S. 761.

The limited focus of the spending plan required by America COMPETES strikes a nerve with scientists concerned by the unequal distribution of proposed budget increases among directorates in the FY 2008 NSF budget request. The Biological Sciences Directorate would receive a modest 4.1 percent increase, whereas the increases proposed for the directorates prioritized in the ACI range from 8.7 to 9.6 percent.

Nadine Lymn, director of public affairs at the Ecological Society of America, warns, “It is troubling that some of the language in the bill [S. 761] would essentially micromanage the director of the agency. Instructing the agency to single out a few disciplines for special attention flies in the face of NSF’s successful and well-established history of supporting the breadth of all science disciplines.”

The House of Representatives has approached its legislative efforts in a somewhat more focused way by considering several smaller pieces of legislation, including stand-alone NSF reauthorization (H.R. 1867), recently passed 399–17. If ultimately signed into law, H.R. 1867 would authorize an increase in NSF funds from $6.5 billion in FY 2008 to $7.5 billion in FY 2010. More important to the biological sciences community, H.R. 1867 does not contain language instructing NSF to focus its investments on specific disciplines.

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