

Showing Why Biology Matters

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Showing Why Biology Matters

The annual fights in Congress over research funding may be unusually tough in 2011, given the new strength of fiscal conservatives and widespread concern about the deficit. Efforts such as those of Representative Adrian Smith (R-NE), who encourages the public to weigh in on what he deems “wasteful” research grants funded by the National Science Foundation (see www.aibs.org/public-policy/news/action_alert_help_to_defend_peer_review.html#029868), add to the importance of making a strong case for biological research to elected representatives (the AIBS Legislative Action Center, at <http://capwiz.com/aibs/home>, is a good place to start).

It would be easy but unproductive for scientists to feel dismay over such seemingly antiscientific attitudes. Yet almost nobody admits to opposing science in general; those who believe biology funding should be cut are most likely to see it as worthy but less important than other priorities. Effective arguments for biology budgets ought to be constructed so as to counter the mental schemas that lead to such judgments.

It is a sad fact that many Americans do not recognize how biology connects to things that are important to them. Biology (perhaps with the exception of biomedicine) is in this way at a disadvantage even when compared with other sciences. Many scientists applauded when President Obama, in his State of the Union speech last January, reiterated the familiar case for research as the essential basis for technological innovation. Yet it seems the populace is more likely to think of physics and chemistry than biology as foundations for progress, and Americans are similarly uninformed about biology's importance to other things they value.

Carl Safina, president of the Blue Ocean Institute, made a related point at a discussion on the changing oceans hosted earlier this year by the National Council for Science and the Environment in Washington, DC. (A Special Book Article by Safina starts on p. 318.) Defenders of the oceans should link their efforts to widespread existing values, Safina argued, because most people are not motivated by information and do not have a scientific worldview. It is hard to generate public concern about ocean acidification because it is detected only through instruments and is as yet largely inconsequential to the average American. Advocates for the oceans should stress how understanding them may contribute to peace, national security, the economy, and to spirituality, as well as show how rising sea levels contaminate wells and coastal fields.

Biologists can trace many similar linkages, including some that may carry weight with the fiscal conservatives on Capitol Hill. The connection between understanding the world's changing biota and an adequate supply of food and fuel, and thus political stability in developing countries and less terrorism, seems worth stressing. The crucial importance of such influences is now recognized by military experts, partly as a result of the efforts of Sherri Goodman, of the Center for Naval Analyses (e.g., see www.securityandclimate.cna.org/report/). The contribution of biology to countering diseases of crops and livestock, including emerging diseases, likewise represents a connection between apparently esoteric studies and livelihoods and pocketbooks. Advertising such connections does not come easily to some who are devoted to science. But if they remain above the fray, they may lose out when the spoils are distributed.

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