Science lobbyists are enjoying unprecedented success in Washington, from pumping up biomedical research budgets to blocking unwanted regulations. Can it last?

Perfecting the Art of The Science Deal

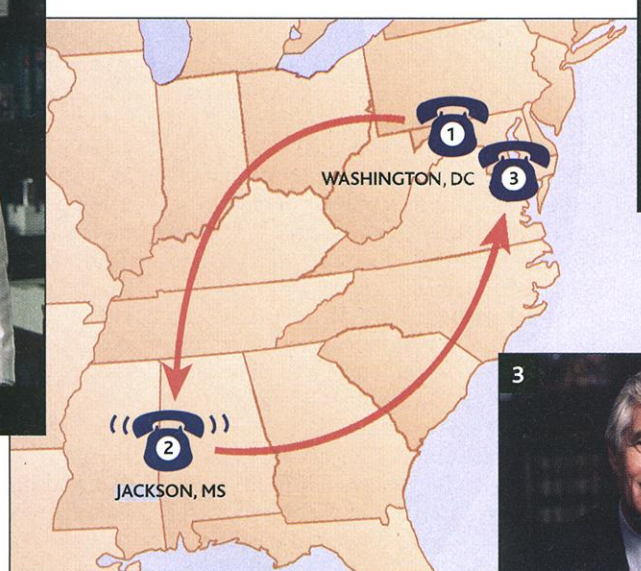
The team of animal-welfare activists walked out of a Washington, D.C., courtroom in triumph. After a decade-long battle, they had finally forced the U.S. Department of Agriculture (USDA) to regulate the care of tens of millions of mice, rats, and birds used for scientific research.

But their celebration last October was short-lived. Even as a federal judge cleared the way for USDA to write the new rules, a U.S. senator was adding language to an annual spending bill that barred the agency from going ahead. "We got caught with our pants down," admitted one animal advocate.

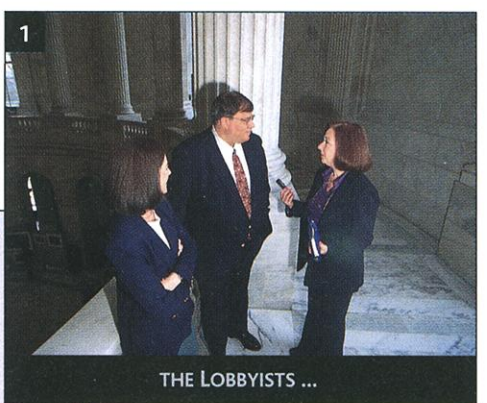
The legislative ambush—engineered by a coalition of biomedical research groups and universities—was another triumph for the growing and increasingly savvy science lobby. "The community is catching on to how this town works," says physicist Jack Gibbons, who served as President Bill Clinton's first science adviser.

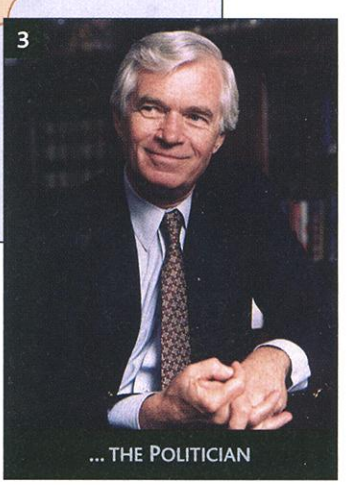
Spurred by fierce competition for government cash and a desire to shape regulations, scientists and their institutions are deploying dozens of lobbyists in Washington and spending millions of dollars to press their case. In the process, researchers have shed their traditional distaste for politics and embraced such once-taboo tactics as hiring consultants and assembling focus groups to test their sales pitch. The techniques have helped the science lobby scale new heights, including three successive years of double-digit growth in the budget of the National Institutes of Health (NIH). Biomedicine's success has produced tension in the community, however, as researchers from less favored fields scramble to catch up. The new message is that balanced growth is good for all of science.

But additional victories may be harder to achieve. The science lobby's clout will be tested by a flagging economy and the Bush Administration, which has proposed holding down many research budgets and is rethinking a Clinton-era policy to support stem cell research. The prospect of flat budgets could also reignite a debate between universities that lobby Congress directly for funds for their own projects and those that condemn the practice. "The stars aren't quite as well aligned for the science community as they have been," says John Podesta, Clinton's science-savvy chief of staff, who now teaches at the Georgetown University Law Center in Washington, D.C. "It's going to be an interesting test."



Triple play. When biomedical lobbyists Frankie Trull, Tony Mazzaschi, and Barbara Rich (1) wanted to stop a federal agency from extending its regulatory arm to laboratory rats and mice, they contacted the University of Mississippi's Wallace Conerly (2), who called his state's senator, Thad Cochran (3), who added language to a spending bill that did the trick.





A political animal

Scientists have trooped to the banks of the Potomac River to plead for support almost since Washington, D.C., became the nation's capital. But it's only in the last decade or so that the science lobby has evolved into a complex organism with an arsenal of political weapons.

The backbone of this political beast is the nation's 200 major research universities and medical colleges and the more than 125 scientific societies. Academia is keenly interested in Washington because it wants to keep the money flowing—more than $25 billion a year—without drowning in a sea of requirements on how to spend it. Higher education is also a potent political force, with hefty local payrolls and high-profile community leaders. "My boss doesn't return every phone call

CREDITS: JAY FERCHAUD/UNIVERSITY OF MISSISSIPPI MEDICAL CENTER (WALLACE CONERLY); RICK KOZAK (LOBBYISTS)

the same day, but he does return calls from presidents of universities in his state," says Bill Bonvillian, a senior aide to Senator Joe Lieberman (D–CT).

Likewise, professional societies can deliver more than 500,000 scientists and engineers on behalf of a particular issue, although finding that common ground isn't always easy. "In the last 5 years, we've gotten past a lot of parochialism; researchers are speaking for science first and then [their discipline]," says David Shutt of the 163,000-member American Chemical Society.

Joining these lead actors is a shifting cast of companies, industry groups, philanthropists, and nonprofit organizations of many stripes. And binding them together is a web of overlapping associations and coalitions, each focused on a particular science funding agency, issue, or interest group (see table). The 93-member Coalition for National Science Funding, for instance, focuses on the National Science Foundation (NSF), while the new Coalition to Advance Medical Research touts the importance of stem cell research. The 60-member Science Coalition speaks for top research universities, while the Federation of American Societies for Experimental Biology (FASEB)—an awkward name for an increasingly deft influence group—monitors developments for its 21 member organizations.

Technically, these groups spend just a minority of their time on lobbying, which federal law defines as taking a position on a specific piece of legislation in Congress. In part, that is because most are tax-exempt organizations, which are barred from spending more than 20% of their budgets on lobbying. Instead, the groups pursue generic "education" campaigns that are not subject to spending limits, such as highlighting the economic payoff of federally funded science. For instance, the American Association for the Advancement of Science (which publishes *Science*) rarely lobbies. Instead, it exerts influence by tracking federal R&D spending, holding conferences, issuing reports, and running a fellowship program to place scientists in congressional offices.

Although many of these groups have regional or state chapters, most of their lobbying is done by a cadre of Washington-based politicos, fewer than 100 in number. Most are not scientists, and some are consultants who charge clients $10,000 a month or more to ease access to policy-makers and to provide advice on Washington rituals (see table, p. 832). Like research, the work is often long, hard, and unsuccessful. But sometimes it all comes together, as happened last fall for the groups fighting the new animal-care rules.

CREDIT: JOSEPH SOHM, VISIONS OF AMERICA/CORBIS

A comeback victory

Like many lobbying successes, the preemption of new animal regulations was catalyzed by a demoralizing defeat. Just a few weeks before last fall's courtroom showdown, USDA officials had agreed to settle a long-running legal dispute with animal activists by developing caging and care rules for lab mice, rats, and birds, animals that the agency has long exempted from its regulations (*Science*, 13 October 2000, p. 243). A coalition led by the National Association for Biomedical Research (NABR), a Washington-based group that defends the use of animals in research, promptly launched a three-pronged effort to scuttle the deal. It argued that the rules would be duplicative, expensive, and harmful to medical research.

SCIENCE LOBBY STANDOUTS

The science lobby is made up of hundreds of groups and coalitions working on behalf of one or more sectors. But a handful stand out due to their size, visibility, or effectiveness. They include:

Government-wide
- Association of American Universities
- National Association of State Universities and Land Grant Colleges
- Science Coalition

NIH
- Ad Hoc Group for Medical Research Funding
- Association of American Medical Colleges
- Campaign for Medical Research
- Federation of American Societies for Experimental Biology
- Joint Steering Committee for Public Policy
- Research! America

Use of animals in research
- National Association for Biomedical Research

NSF
- Coalition for National Science Funding

Energy
- Energy Sciences Coalition

Defense
- Coalition for National Security Research

Marine issues
- Council on Oceanographic Research & Education

First, the lobbyists tried to convince USDA to reverse course. But those hopes were dashed after a disastrous meeting with USDA brass. "We implored them [to continue fighting], and they blew us off," recalls one of the five attending lobbyists, Tony Mazzaschi of the Association of American Medical Colleges (AAMC), which represents 125 of the nation's major medical schools. Meanwhile, legal challenges filed by NABR and Johns Hopkins University in Baltimore, Maryland, were faring no better. (The judge eventually swept them aside, and the groups have since appealed.)

By coincidence, Congress was putting the final touches on an annual spending bill for the Agriculture Department just as the court battle neared its climax. The bill provided another route, although the timing was tight. "We were told it couldn't be done," recalls NABR's Barbara Rich.

What turned the tide was the science lobby's "inside-out" approach, which combines insider Washington expertise with outside-the-Beltway activism. Dismissing the doubters, NABR founder Frankie Trull—a veteran lobbyist who also works as a consultant to a number of firms—started working the phones. One cold call went to Wallace Conerly, vice chancellor of the University of Mississippi Medical Center in Jackson, an institutional force in state politics. Could Conerly, Trull asked, get in touch with Mississippi Republican Thad Cochran, who leads the Senate Appropriations subcommittee that writes the USDA's budget? To NABR's delight, Conerly agreed to try—and within days, Cochran had convinced the small group of lawmakers finalizing the bill to bar the USDA from spending any funds to develop the new regulations until 1 October. (The groups are now plotting ways to extend the ban.)

The story highlights several basic rules of the influence game:

- Seek strength in numbers. By working together, NABR and its allies were able to show force, share expertise, and tap an extensive network of contacts.
- Maintain strong ties outside Washington. "The key thing was that it wasn't some lobbyist talking to Cochran," says Mazzaschi. "This was an appeal from someone important back home who would be directly affected."
- Don't wait for a crisis to educate your audience. A steady stream of newsletters

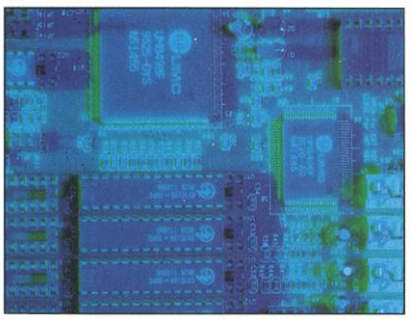
Can ASTRA Restore a Glow to the Physical Sciences?

Like one-time headliners exiled to bit parts, advocates for the physical sciences watched jealously as the biomedical lobby won a standing ovation for boosting the budget of the National Institutes of Health (NIH). Now a new influence group, the Alliance for Science and Technology Research in America (ASTRA), hopes to copy the biomedical lobby's tactics and pump up physical science budgets as well. But the project is off to a bumpy start—and some wonder if it can succeed at all.

ASTRA arises from a loosely knit group led by chemist Mary Good, a former Clinton Administration technology official who is now a dean at the University of Arkansas, Little Rock. Taking a cue from the NIH doubling coalition, Good wants scientists to rally behind a broad spending increase for mathematics, the physical sciences, and engineering research. The alliance, which hopes to raise $1.5 million a year, aims to combine the tactics of two biomedical groups—the public relations–savvy Research! America and its hardcore lobbying spin-off, the Campaign for Medical Research. In particular, ASTRA's business plan says the group will add industry's voice to the lobbying "chorus already on stage," deploying high-profile executives "at moments when their presence will add unique value and leverage."

Guiding light. Chemist Mary Good is a force behind ASTRA.

Many university and science society lobbyists say the concept is appealing, and ASTRA's 24 early backers include the American Chemical Society and The Science Coalition. The National Association of Manufacturers, which represents 14,000 companies, sees ASTRA as a way to give voice "to the great silent scientific majority that works in industry," says David Peyton, a lobbyist for the group.



Will it compute? ASTRA seeks support from chipmakers and other companies.

But skeptics note that while the biomedical lobby could focus its effort on a single agency, NIH, and its two congressional funding panels, ASTRA will have to ride herd on at least four agencies and six congressional committees. And then there's the human factor. "Nobody dies of high-energy physics," notes one lobbyist. "I don't think you are going to see Tom Cruise testifying for nanoscience," quips another.

With start-up funds from two foundations, ASTRA is banking on corporate annual dues of up to $25,000 from at least 45 companies—and smaller payments from more than 100 societies and universities—to sustain itself. So far, fewer than 10 firms, including Lucent and IBM, have signed on. Without more companies, Good says, it's hard "to effectively make one of our main arguments: that research is vital to the economy." **–D.M.**

and e-mail from NABR and its allies meant that Conerly "knew exactly what we were talking about" when Trull placed her call. Cochran had also been primed, says Mazzaschi, noting that biomedicine backers had taken him on tours of major research facilities.

• If Mom says no, try Dad. "You have to work both ends of Pennsylvania Avenue," says Rich, referring to the grand boulevard that connects the White House and Congress. "You deal with rejection and then make another attempt."

The doubling machine

No Washington lobby has followed these rules better in recent years than the proponents of doubling the NIH budget. Last month, the alliance moved another step closer to its goal of $27 billion in 2003 as the Bush Administration proposed a record $2.8 billion increase for the agency in an otherwise lackluster budget for science (*Science*, 13 April, p. 182). Remarkably, some members of Congress have vowed to do even better, endorsing a $3.4 billion increase that the doubling coalition has recommended. Such headturning results, says Gibbons, have made "the vaunted health lobby the model everyone wants to emulate."

What sets the NIH coalition apart from other science lobbying efforts is its longtime alliance with dozens of grassroots patient groups, pushing for cures to everything from cancer to rare genetic disorders, that can deliver heartfelt messages about the life-saving promise of research. "You put a patient next to a scientist funded by a federal agency [to find a treatment], and you've got a very powerful visit to a member of Congress," says Ray Merenstein, vice president of Research! America, an Alexandria, Virginia–based group that uses everything from polls to celebrity appearances to promote health research.

Those potent forces have been enhanced in recent years by a budget surplus and the presence of three vocal NIH boosters on the federal scene: Nobel laureate Harold Varmus, who served as NIH's director from 1993 to 1999; Senator Arlen Specter (R–PA), who since 1994 has chaired the Senate Appropriations subcommittee that oversees NIH's budget; and Representative John Porter (R–IL), who led the House's spending panel from 1994 to 2000. Capitalizing on these developments is an NIH lobby that is more cohesive, better funded, and

HIRED GUNS: WHAT SOME GROUPS SPEND ON SCIENCE-RELATED LOBBYING

Client	Represented by	1999	Focus
Boston University	Cassidy & Associates	$760,000	Facilities
The Science Coalition	Podesta/Matoon	$440,000	Research
FASEB	Van Scoyoc Assoc./SLR	$280,000	Biomedical
University of Hawaii	Cassidy & Associates	$280,000	Facilities
EPSCoR Coalition	Van Scoyoc Assoc.	$200,000	Underserved states
Joint Steering Committee	Kyros & Cummins Assoc.	$160,000	Biomedical

SOURCE: CENTER FOR RESPONSIVE POLITICS

better connected than ever.

One group that exemplifies all three traits is the Campaign for Medical Research (CMR). Although the 4-year-old CMR has just two fulltime staffers and a budget of about $300,000 provided by FASEB, the Juvenile Diabetes Foundation, and other groups, its political pedigree gives it a disproportionate reach. Its operatives include Robert Michel, the genial former Republican leader of the House of Representatives; longtime biomedical supporter Mark Hatfield, a former Senator; and retired Representative Paul Rogers, known as "Mr. Health" during a 22-year career. Start-up funds were provided by philanthropist John Whitehead, a Research! America stalwart whose father founded the Whitehead Institute, a prominent genetics research center in Cambridge, Massachusetts.

Although CMR got off to a rocky start with other groups, it has since carved its niche, helping to unite patient, science, university, and industry groups behind a single message: Double the NIH budget. As early as 1992, Research! America had found public support for the idea in polls, and in 1997 such lawmakers as Porter, Specter, and Senators Connie Mack (R–FL) and Tom Harkin (D–IA) started talking up the idea. But it really took off after a booming economy erased the budget deficit in 1998, and interest groups agreed to switch from self-interest to community-wide advocacy.

CMR typically operates out of sight—it has arranged more than 75 face-to-face meetings with lawmakers over the last year—but its fingerprints appeared on a very public event last December. With the help of the older Ad Hoc Group for Medical Research Funding, FASEB, and other groups, CMR packed an ornate U.S. Capitol hall for a rally designed to stamp out an 11th-hour attempt to freeze NIH's budget. *The New York Times* ran a picture of the event, and within days Congress had approved NIH's third straight major budget increase (*Science*, 22 December 2000, p. 2226).

Tipping the balance

Such high-profile successes have sparked envy in other segments of the science lobby, along with efforts to copy the NIH lobby's tactics (see sidebar on p. 832). It has also injected a controversial new buzzword—balance—into science lobbying circles, where rhetoric is serious business.

To some science advocates, the term is a positive, punchy way to highlight a widening gap between government spending in biomedical research and funding for other fields, from math to engineering. The gap, physical science societies have warned, "imperils future discoveries in other fields, such as medicine." Although such statements

ILLUSTRATIONS BY C. SLAYDEN

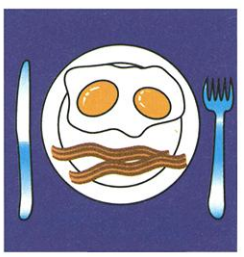
TOOLS OF THE TRADE

Give an Award

Nearly 150 of the 545 members of Congress got at least one award from a science-related group over the past 18 months, according to an informal survey by *Science*. Although such "grip and grin" events might seem ritualistic, "everyone wants to be recognized for the good work they do," says Missi Tessier of the Science Coalition, which hands out its share of prizes. She's especially proud of a nanoscale saxophone that the coalition presented to President Bill Clinton. "He kept it on his desk for a long time," she says. "That can't be a bad thing."

Feed 'Em

Want to win friends? Offer a free meal and a compelling dessert speaker. That's the recipe of the Joint Steering Committee for Public Policy (JSC), a 12-year-old coalition backed by the American Society for Cell Biology, the Genetics Society of America, and the American Society for Biochemistry and Molecular Biology. In 1989, the JSC bankrolled a plan by consulting lobbyist Peter Kyros—a former Maine congressman—to create the Congressional Biomedical Research Caucus, a sort of lunch bunch for interested lawmakers and their staffs. Its lunches "have become a watering hole where researchers and policy-makers meet," says a congressional aide. Proving there is no free lunch, however, the JSC reported spending $160,000 in 1999 to support the 100-member caucus and Kyros's other lobbying activities.



Flock Together

Although coalitions may be smart politics, they can be difficult to build. "There are usually just a few things everyone agrees you can say out loud when you are trying to represent a jillion scientists," says one former Capitol Hill staffer, leading to painfully bland discussions. As a result, says the University of Michigan's Tobin Smith, "a lot of us dream of creating a coalition of coalitions that would meet just once a month."

Even so, the political reach of coalitions makes them hard to beat. One of the newest, The Coalition for the Advancement of Medical Research, has its work cut out for it as an advocate for the use of stem cells in research (*Science*, 2 March, p. 1683). To help make the case, the eight-member coalition—led by the American Society for Cell Biology and the Juvenile Diabetes Foundation—has hired Vicki Hart, who once worked with former Senator Bob Dole.

Send the Right Message

It's debatable whether adding a Nobel laureate's signature to a letter really makes a difference, or whether flooding a legislator with tons of mail will sway his or her vote. But the savvy lobbyist knows that some of the most important correspondence never leaves Capitol Hill. It comes in the form of a "Dear Colleague" letter, which lawmakers sign to show their strong support for a particular issue. "If you don't have a dear colleague, you aren't in the game," says one congressional aide.

Meanwhile, one of the science community's favorite communication tools is losing favor. Congress now receives more than 80 million electronic messages a year, meaning e-mails from computer-savvy scientists and engineers no longer stand out.

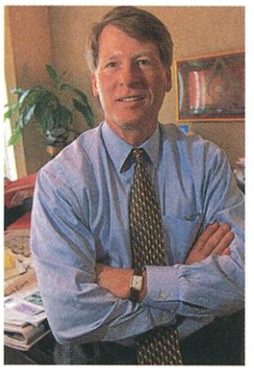
Recruit a Celebrity

A movie star such as Christopher Reeve or a famous athlete like John Elway can help pack an event. But hooking up with celebrities can come at a price—from first-class accommodations to appearance fees. Although the stars often donate their time, some have been known to ask for five-figure fees to defray expenses, according to knowledgeable sources.

FACES IN THE CROWD

Sam Rankin: Playing the Numbers

As chair of the math department at Worcester Polytechnic Institute in Massachusetts in the early 1990s, Sam Rankin's life revolved around numbers. As the top Washington operative for the American Mathematical Society, Rankin is still counting, but now it's budget levels and voting records.



"I didn't really know what to expect when I arrived here in 1995," says the 55-year-old Rankin, who originally took a 1-year leave of absence to tackle what may be one of the toughest jobs in science lobbying: making math sexy. He ended up staying, realizing "that I liked contributing to my field and the whole science community this way." He is now a central player in one of this year's most watched lobbying efforts, the campaign to keep the National Science Foundation on track to double its budget by 2005.

That task, which requires a 15% annual hike, will be difficult given President Bush's request for just a 1.3% increase in 2002. But Rankin is upbeat as coordinator of the 93-member Coalition for National Science Funding. "We will demonstrate to Congress that NSF is important," he predicts, with the help of Senators Kit Bond (R–MO) and Barbara Mikulski (D–MD), who lead the Senate spending panel that oversees the agency.

Mathematics has been good training for political coalition building, he says. Given the cross-disciplinary nature of the subject, "I've always interacted with other groups," he says. This year, he'll need all the friends he can get.

Tobin Smith: University Utility Player

As a science lobbyist for the nation's largest research university, the University of Michigan's Tobin Smith, 34, covers a lot of ground. After a morning spent decoding new biomedical research regulations, for instance, Smith might devote part of an afternoon to the Department of Energy's physics programs before turning to social science research at the Department of Education. Then there are the periodic trips to the Ann Arbor campus, which help him stay abreast of the hot science coming from the school's $545 million research program. "It's a broad purview," he admits.

The hectic pace doesn't bother Smith, a political science major who "decided that Washington was the place I wanted to be." After snagging a job with influential Michigan Democrat Representative Bob Traxler, who chaired a key science spending committee, Smith was hired in 1992 by the new Washington office of the Massachusetts Institute of Technology. Two years ago, he "came home" to his undergraduate alma mater.

As if navigating the government's policy-making maze isn't challenging enough, Smith has also had to learn his way around Michigan's sprawling, decentralized research enterprise. "The university's breadth is a strength and a weakness," he says. With more than 5000 researchers, the school is a presence in most disciplines. But pulling investigators together to create the kind of interdisciplinary teams that are increasingly in vogue among federal science funders, he says, "is something we've had to work at."

April Burke: Keeping It Simple

"We're becoming known as the geek advocacy shop," says April Burke, one of a growing platoon of consultants who specialize in representing science and technology clients. Her 10-member firm, Lewis-Burke Associates, is relatively small by Washington standards, but its 11 clients include such academic heavyweights as the California Institute of Technology and mainline groups such as the Society for Industrial & Applied Mathematics and the University Corporation for Atmospheric Research, which operates the National Center for Atmospheric Research.

Like many of her peers, the 49-year-old Burke has little technical training. Instead, she is a lawyer whose résumé includes stints as a congressional staffer and operative for the 62-member Association of American Universities before striking off on her own in 1992. Given that background, she kids, "even my son asks how someone who doesn't even know what an atom is can talk to members of Congress about science. But if a researcher can't explain it to me, they probably aren't going to be able to explain it to a [congressional staffer], either."

Her clients pay up to $200,000 a year for other kinds of expertise. "We tell them what is going on in Washington, what it means, and what we are going to do about it," she says. They also pay to avoid mistakes. "Sometimes, I've told a client we just need to stop [lobbying for something]." Inaction, she notes, can sometimes be just as important as action. **–D.M.**

may well be true, many politicos call the balance argument unpersuasive—and possibly counterproductive.

"It is not enough to argue that 'they are getting a lot and we aren't,' " David Goldston, legislative director for the House Science Committee, recently told a group of administrators from state land grant universities. And although "appealing as a rhetorical device," added Dan Pearson, one of the committee's Democratic aides, a call for balance can lead to distracting—and pointless—comparisons between funding for different fields. A better approach, both advised, is to explain how specific budget increases may lead to tangible economic or social benefits.

That view is backed by polls and focus groups that science groups increasingly use to test lobbying rhetoric. The Science Coalition, for instance, recently used small focus groups to study public attitudes toward government funding of science in three key regions: Texas, the president's home turf; Wisconsin, a key swing state in national elections; and Washington, D.C. "The argument that other sciences have to keep up with the life sciences didn't wash," says Missi Tessier, a consultant with Podesta Mattoon, which coordinates the coalition. The coalition did find support for a variation of the doubling argument, however: Biomedical breakthroughs require contributions from other fields. "Use the word 'cure,' and that works," says Tessier.

Backed by such data, physical science lobbyists have launched their own campaign to double NSF's budget to $8 billion by 2006, winning their first success last year with a 13.5% increase. Keeping the NSF doubling train on track this year, however, is shaping up as a major test for the science lobby, with the president's request for a 1.3% boost a sharp setback. Although key biomedical groups such as AAMC and FASEB are stepping up their efforts to, in the words of one lobbyist, "hook NSF to the NIH doubling train," the powerful patient groups have shown little enthusiasm.

Even doublers get the blues

The patient groups, meanwhile, face their own challenge. The NIH increase proposed in the president's budget is built in part on restraining spending for public health and social programs. But that prospect has angered influential lawmakers and groups representing those interests. Senator Ted Stevens (R–AK), the powerful head of the Senate Appropriations Com-

CREDITS: RICK KOZAK

Hawaii Rides a Wave of Research Earmarks

When the University of Hawaii set out to upgrade its science programs 15 years ago, it also chose a high-profile lobbying strategy. By hiring Cassidy and Associates, a Washington, D.C., firm known for its ability to win federal funds for facilities and programs that have not undergone traditional peer review, Hawaii cast its lot with one side in the debate over pork-barrel science.

Defenders say such academic earmarks—some $8 billion since the practice began in earnest 2 decades ago—are often the only way for schools like Hawaii to build the infrastructure needed to compete with the big boys for government research grants. But critics say the practice rarely helps schools move up in the pecking order, and that it has fostered a negative image of academic researchers as—in the words of one lobbyist—"welfare queens in white coats."

What Hawaii liked about Cassidy, according to university records, was the firm's "established working relationship with Hawaii's congressional delegation." Since 1987, the school has paid Cassidy at least $2.5 million, including more than $270,000 annually under a recent contract. By one count, Hawaii is one of the nation's top academic earmarkers, with $290 million since 1983. School officials credit Cassidy with helping them capture such prizes as a $45 million oceanographic research vessel, a $26 million research building, and a $13 million astronomy center. "We're very happy with the results," says research dean Frank Perkins. He says that Cassidy lobbyists even help the school choose projects with the greatest appeal to Congress. Cassidy officials declined to comment on their role.

But Hawaii had more going for it than Cassidy. The state is represented by one of the keenest practitioners of bringing home the scientific bacon, Senator Daniel Inouye, a 42-year lawmaker and the second-ranking Democrat on the powerful Senate Appropriations Committee.

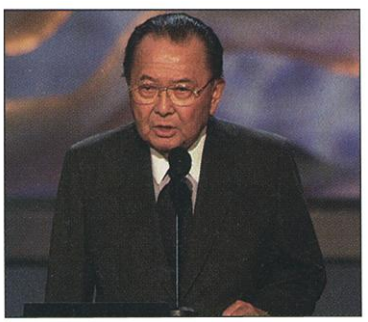
The process isn't always foolproof, however. Three years ago, Lou Herman, a University of Hawaii, Manoa, marine mammal researcher, learned that he would have to move his facility, which houses dolphins and other research animals. Herman—who describes himself as "a very unpolitical person"—was persuaded to approach Inouye at a meeting and describe his need for relocation funds. He didn't have to wait for results: In a September 1998 press release, Inouye trumpeted a $1 million earmark in an energy spending bill to plan a "marine mammal research and education center" at the Natural Energy Laboratory (NEL), a state-sponsored research park on the island of Hawaii.

But after a few meetings with NEL staff members to discuss the project, Herman says the NEL apparently diverted the money to some other use. "It was very disheartening; no one ever called with an explanation," Herman recalls. Inouye's staff did not return repeated calls from *Science* seeking comment, but NEL staffer Barbara Lee says the "project evolved ... the marine mammal [facility was] not appropriate ... [the project] has an energy focus now."

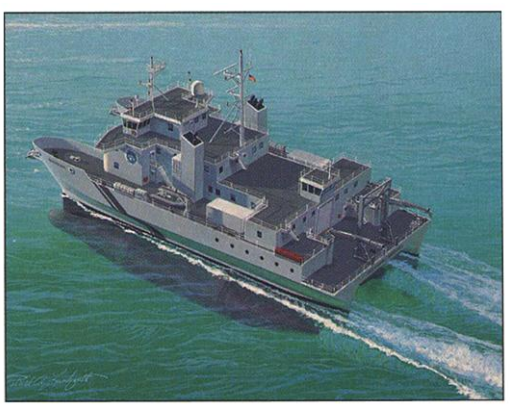
Critics say that such tales highlight the accountability problem inherent in many science-related earmarks. Without the need to justify expenditures to expert reviewers, schools often spend earmarks on projects that do little to boost their competitiveness, says James Savage, a University of Virginia, Charlottesville, academic who tracks earmarking. As a result, he says, top earmarkers such as Hawaii rarely improve on their middling rank on a list of universities with the most federally funded research. Indeed, Savage says that Hawaii's ranking has changed little since receiving its first earmark.

Although once burnt, Herman says he wouldn't be shy about asking for earmarked funds again. After all, he's still looking for a new home for his lab.

–D.M.



Rainmaker. Senator Daniel Inouye has helped the University of Hawaii win millions for science projects, including this research vessel.



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mittee, has questioned whether NIH is "entitled" to double. In light of such grumbling, NIH backers "are desperately trying not to seem greedy," says the CMR's Kevin Mathis, a former Specter aide.

The Bush budget could also renew tensions in the university community. Some schools have benefited greatly from so-called pork-barrel projects—funding for buildings and research programs that is awarded directly by Congress and not through a peer-reviewed competition (see sidebar above). Despite criticism from some university presidents and lawmakers, academic earmarks reached a record $1 billion last year, according to a survey by *The Chronicle of Higher Education*. Although that is a small fraction of the U.S. government's $90 billion R&D budget, Congress loads many of the earmarks onto a few spending bills, including those that fund the Department of Energy and NASA. If "earmarks increase, and budgets are not growing, it could become really contentious, because you erode core research budgets," notes Podesta. That scenario could split some research lobbying coalitions, he says, if some members decide "to head for the hills and try to take care of themselves."

To avoid defections, lobbyists are looking for new voices. The Science Coalition, for instance, may enlist state governors in a pro-science letter to Bush. "This president is close to governors, so they might be influential," says Kevin Casey of Harvard University, which founded the coalition. Tobin Smith, a science lobbyist for the University of Michigan, believes the community "probably hasn't done a good enough job of using students and young scientists as our emissaries."

As with all political supplicants, the science lobby must also deal with a constantly changing landscape. In addition to the new Administration, NIH has been operating with an acting director since Varmus left in December 1999, and Porter retired in January (joining Michel and Rogers at the prestigious Hogan and Hartson law firm). As a result, says George Leventhal of the Association of American Universities, "there is always some new legislative aide or a freshman member of Congress to educate." The outcome of those lessons could determine the fate of federally funded science for years to come. –DAVID MALAKOFF