Mueller-Dombois and other scientists have written to Hawaiian officials and to the state's congressional delegation, but they say that most elected officialdom is highly sensitive to the interests of developers. Lamoureux observes, for instance, that "every time a plant is proposed for endangered listing the state government has always opposed the listing" because it doesn't want to tie up land. Peter M. Vitousek, a biologist at Stanford University who has lived in Hawaii, says environmentalists and developers in the state are "tremendously polarized," so civil avenues of communication are in short supply. The Hawaii Nature Conservancy is studiously staying out of the conflict.

The islands of Hawaii are fabulous repositories of plant and animal species that exist nowhere else. Hawaiians take great pride in their natural heritage, but there is not much organized action on its behalf. Researchers are sparse, much of the land has still not been surveyed, and thousands of species still await classification.

As Mueller-Dombois points out, the significance of the conflict goes way beyond the future of Hawaii. "How can we expect developing countries to save some of their tropical rainforests if we cannot even do it in the U.S.A.?" he asks. Hawaii has been cited as potentially an ideal United States model for the successful marriage of economic development and environmental protection. Yet it is doing things that would not be condoned if it were a client of the Agency for International Development.

The 'ōhi'a chipping operation offers further irony as a case of bioenergy gone awry. The conversion of renewable biomass and wastes is touted by many scientists as the most environmentally and economically sound way to meet energy needs in the Third World. Indeed, the East-West Center at the University of Hawaii is one of the world's primary centers for bioenergy research. But the center's activities are all directed toward developing countries, and when one of its scientists wrote a newspaper to protest the destruction of nonrenewable resources on the Campbell Estate, he was chastised by a state forester for being a traitor to his profession.

Sanford Siegel, chairman of the University of Hawaii botany department, says the bright side of the dispute is in the evidence that Hawaii may be on the threshhold of a public "dialogue" over the environment. Ten years ago, he says, "anybody with an environmentalist label on them was the enemy."

—CONSTANCE HOLDEN

Environmental Leadership in State of Flux

The environmental community has been in flux lately. Several major environmental groups have appointed new leaders, and the Conservation Foundation and World Wildlife Fund may merge.

- The Sierra Club has named as its new executive director Douglas Wheeler, who is currently president of the American Farmland Trust, a nonprofit group concerned with soil conservation and the protection of farmland. He was deputy assistant secretary of Interior in charge of the National Park Service and the Fish and Wildlife Service in the Ford Administration. Wheeler, a lawyer, will take office on 1 July, succeeding J. Michael McCloskey, who has headed the organization for 16 years.
- National Audubon Society in April named Peter Berle as its new president. Berle, a lawyer and former commissioner of the New York State environment and natural resources agency, will succeed Russell Peterson, who is retiring on 1 August.
- Friends of the Earth in January appointed Karl Wendelowski as its executive director. Wendelowski comes to the post from Nutritional Management, a medical services company in Chicago. He trained in business management and engineering and has managed an Antarctic research station supported by the National Science Foundation.
- The Environmental Defense Fund is now headed by Frederic Krupp, who is a lawyer and was most recently the director of the environmental group, Connecticut Fund for the Environment.

The heads of the Conservation Foundation, William Reilly, and World Wildlife Fund, Russell Train, have proposed to combine the two groups to bring together the foundation's policy-making skills and the wildlife fund's strengths in the natural sciences. The details are to be hammered out this summer before the proposal is put before the boards of the two groups for approval.

The idea for the merger came from Reilly and Train, who have been close personal friends since the early 1970's when Train led the Council on Environmental Quality and Reilly was a member of his staff. Train was also president of the Conservation Foundation from 1965 to 1969. Reilly is said to be increasingly interested in focusing on international conservation efforts.—MARJORIE SUN

Stockman Relents on Landsat

David Stockman, director of the White House Office of Management and Budget, has apparently abandoned his opposition to the government-subsidized commercialization of Landsat. On 16 May he agreed to send Congress a supplemental budget request of $75 million for fiscal year 1985 and $50 million for fiscal year 1986.

The money will go to EOSAT, a consortium of RCA and Hughes that last year survived a bidding process for the right to take over Landsat from the National Oceanic and Atmospheric Administration (NOAA). The subsidy will ultimately total $250 million plus launch costs for the first two EOSAT satellites, and is designed to help the company develop a market for Landsat's remote sensing data.

Stockman, who has opposed the subsidy since it was agreed to last fall (*Science*, 12 October 1984, p. 152), has consistently refused to allow NOAA to request the money from Congress. Most recently, in March, he went to a group of four Republican senators and asked their help in killing the transfer, arguing that the market would never materialize, that EOSAT was putting none of its own money at risk, and that the subsidies would therefore continue indefinitely (*Science*, 19 April, p. 308).

EOSAT officials denied those assertions heatedly. But in any case Stockman's ploy seems to have backfired. One of the four senators was Paul Laxalt (R-Nevada), who chairs the appropriations subcommittee that oversees NOAA and its parent agency, the Commerce Department. After listening to Stockman he took an interest in the Landsat issue, became a strong supporter of EOSAT and the Landsat transfer, and began to press Stockman to approve it. As a close personal friend of President Reagan,

his opinion apparently carried some weight.

The relevant subcommittees on Capitol Hill have been supportive of Landsat all along. Staffers say that, even with Congress's effort toward a budget freeze, they will probably be receptive when Stockman's belated subsidy request arrives.

—M. MITCHELL WALDROP

Pentagon Claims Export Controls Save Billions

The battle over export control policy, which has been raging within the Reagan Administration, in Congress, and among Western nations over the past few years, has been punctuated by wild assertions, but little hard data, about the costs and benefits of applying strict controls to the flow of technology to the Soviet Union. Now the Pentagon has produced a report that attempts to put a dollar value on the benefits of taking a hard line on technology exports.

The study, performed by a consulting firm called B-K Dynamics, contends that Western allies saved between $14 billion and $28 billion by denying applications for 79 licenses to export specific items to the Soviet Union in 1983 and 1984.

These huge savings were calculated by estimating how much the Soviet Union would have saved over the lifetimes of the technologies by buying them from the West rather than developing them itself. In addition, the study attempted to assess how much it would have cost the West to counter the technological boost the Soviet military would have gained by importing the technologies.

The potential savings in development costs to the Soviets range from $6.6 billion to $13.3 billion, while the cost to the West to respond, in terms of increased defense expenditures, would have been $7.3 billion to $14.6 billion, the report concluded.

The 79 license applications that were studied in detail were drawn from a list of some 2000 cases in which exporters unsuccessfully applied for permission from the U.S. government or other Western governments to ship specific technologies to the Soviet Union. The 79 cases involve the most critical technologies, according to Brad K. Smith, Jr., who conducted the study.

The study also concluded that acquisition of some of the technologies would have shortened by 3 to 5 years the time the Soviets would require to develop antisubmarine warfare sensors, and would have speeded up development of command, communications, and control systems by more than 5 years.

Richard Perle, assistant secretary of defense for international security policy, admitted at a press conference when the study was released that "as with every economic modeling, the results are somewhat dependent on the assumptions." But he argued that the conclusions support the Pentagon's attempts to tighten U.S. controls, and they bolster the Administration's efforts to persuade U.S. allies to strengthen international mechanisms

Richard Perle

for restricting technology flows from the West to Soviet bloc countries.

The study did not attempt to assess whether the Soviets have acquired the technologies through other means, including illegal exports or espionage. Neither did it attempt to assess the economic benefits to the West that would have resulted from the sales. The conclusions have thus been criticized by congressional aides and some industry groups as presenting a distorted picture of the benefits while ignoring the costs of export controls. The Pentagon is, however, expected to use the numbers in the study as ammunition in the months ahead as Congress attempts to rewrite the Export Administration Act.

—COLIN NORMAN

New York Mayor Honors Scientists

New York Mayor Edward Koch, in an action that sets him apart from most local officials in the United States, has instituted a new program to recognize men and women living or working in the city who have made major contributions in science and technology. The first presentations of the New York Mayor's Award of Honor for Science and Technology were made on 21 May at a ceremony at Gracie Mansion.

The Mayor's interest in science was manifest last May when he created a 19-member science commission with a view to giving science and technology recognition similar to that long accorded the arts in many municipalities. The commission, headed by City College president Bernard Harleston, received some 75 nominations for the Mayor's Award, from which nine names were forwarded to Koch who himself selected the five prizewinners. They are:

Mathematician Lipman Bers, currently a visiting professor at the City University of New York, for giving "special encouragement" to women in mathematics and for his "tireless" efforts on behalf of the "human rights of persecuted scientists throughout the world."

Virologist Charlotte Friend of the Mount Sinai School of Medicine, for her discovery in 1957 of a virus that causes a form of leukemia in cats. "Her irrefutable data and persistence led to a fundamental rethinking of cancer research."

Cyril M. Harris, professor of engineering and architecture at Columbia, for designs credited for the superb acoustics at Avery Fisher Hall, the New York State Theater at Lincoln Center, and the Metropolitan Opera House.

Gerald D. Laubach, president of Pfizer, Inc., a major pharmaceutical firm with headquarters in New York, for "significant contributions to medicinal chemistry, drug discovery and drug development."

I. I. Rabi, university professor emeritus at Columbia, honored as "the elder statesman of Nobel laureates in science."

—BARBARA J. CULLITON