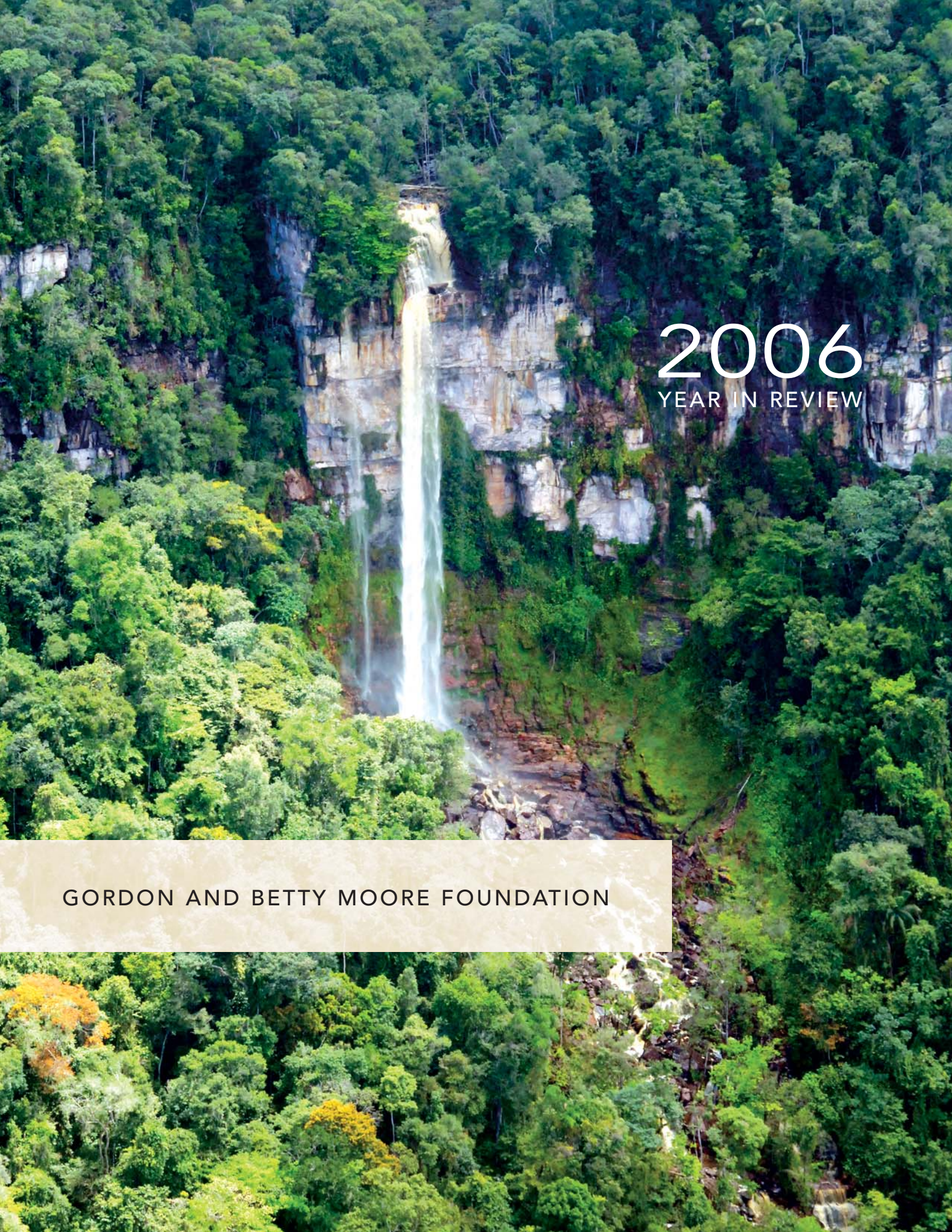

2006
YEAR IN REVIEW

GORDON AND BETTY MOORE FOUNDATION

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PRESIDENT'S LETTER

Dear Colleagues,

I am pleased to present the Gordon and Betty Moore Foundation's 2006 *Year in Review* report. In addition to the Foundation's financial highlights, the report reflects the progress made by our grantees in our **Environmental Conservation, Science,** and **San Francisco Bay Area** programs.

I hope you will find the report and grant highlights informative and useful, and I welcome any comments or questions you may have about it.

Best regards,

Edward E. Penhoet, Ph.D.

President, Gordon and Betty Moore Foundation

FOUNDATION OVERVIEW

FOUNDATION OVERVIEW

The Foundation is committed to advancing environmental conservation and cutting edge scientific research around the world, as well as to improving the quality of life around the San Francisco Bay Area—Gordon and Betty Moore's home for more than 70 years.

Foundation Vision/Mission

Vision: Creating positive outcomes for future generations.

Mission: As responsible stewards of the resources entrusted to us, we form and invest in partnerships to achieve significant and measurable results in environmental conservation, science, and the San Francisco Bay Area.

The Foundation's Structure: Programs and Initiatives

The Foundation operates proactively in three specific program areas—**environmental conservation, science,** and the **San Francisco Bay Area**—where a significant and measurable impact can be achieved.

Distinct initiatives have been created within the Foundation's three programs. An initiative employs a portfolio of grants and other activities that are expected to help achieve targeted, large-scale results in a specific time frame. The initiative team utilizes a range of tools and methodologies to achieve their strategies. These include:

- Grantmaking and mobilizing selected grantees to achieve shared goals
- Convening stakeholders and communities to share evidence-based best practices and other key learnings
- Serving as thought leaders on topics relevant to the initiative and the Foundation's programs more generally

Achievement at this scale requires strong partnerships with communities, government entities, other nonprofit organizations, and the private sector.

Environmental Conservation

The goal of the Foundation's Environmental Conservation Program is to change the ways in which people use important terrestrial and coastal marine ecosystems to conserve critical ecological systems and functions, while allowing sustainable use. The Environmental Conservation Program houses three initiatives, including its Andes-Amazon Initiative, Marine Conservation Initiative, and Wild Salmon Ecosystems Initiative. The Conservation International Commitment also falls under the Environmental Conservation Program. A commitment is the sum of many inter-related activities that exist under one large long-term grant.

Science

The Foundation's Science Program seeks to make a significant impact on the development of transformative scientific research, and increase knowledge in emerging fields. The Science Program includes one initiative, Marine Microbiology Initiative, and one Commitment to California Institute of Technology (Caltech).

San Francisco Bay Area

The goals of the Foundation's San Francisco Bay Area Program are to protect unique and irreplaceable lands; support science and technology museums; and improve nursing-related patient outcomes in adult acute-care hospitals. The San Francisco Bay Area Program has one initiative, Betty Irene Moore Nursing Initiative, one Commitment, the Betty Irene Moore School of Nursing Commitment (established in 2007), and two areas of focus, Land Protection, and Science and Technology Museums.

In addition to funding long-term initiatives and commitments, grant dollars are allocated to special and opportunistic projects within each of the three program areas that have the potential for high impact, results, or knowledge gain.

Grantmaking Philosophy

The Foundation employs an engaged and targeted approach to philanthropy. It independently defines the philanthropic results or outcomes that it intends to achieve and develops theories of change and strategies for achieving these outcomes. Foundation staff then seek to identify potential grantees and other strategic partners which have the competence and shared interest to implement the strategies. The philanthropic process, from strategy development, through initiation of grants, to monitoring of progress and evaluation of results, involves active collaboration and a high degree of transparency among the Foundation's staff, grantees and other stakeholders. The Foundation expects to contribute more than just funding. For example, it will organize and convene multiple stakeholders to develop consensus or broaden support for solutions. It frequently seeks to expand the capacity of its partners to manage complex systems and problems. It actively and continuously assesses risk and adaptively manages its portfolio of grants to address change over the life of a project.

ENVIRONMENTAL CONSERVATION PROGRAM

ANDES-AMAZON INITIATIVE

MARINE CONSERVATION INITIATIVE

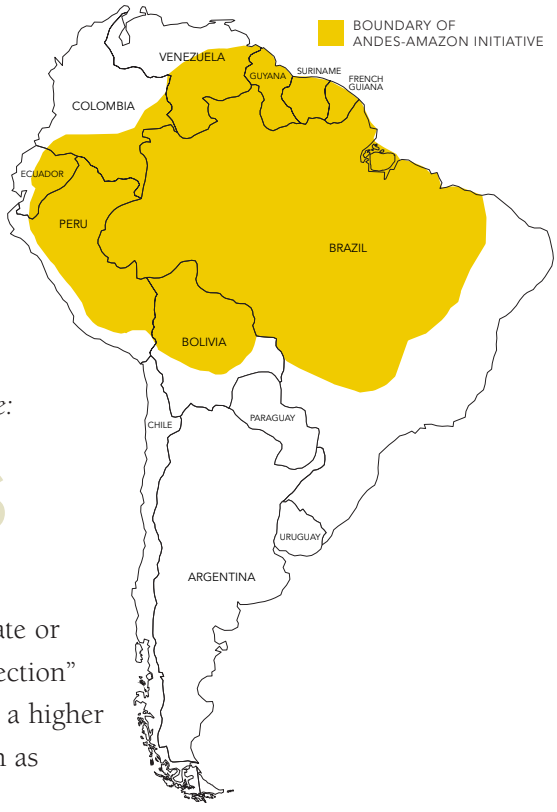
WILD SALMON ECOSYSTEMS INITIATIVE

CONSERVATION INTERNATIONAL COMMITMENT

ENVIRONMENTAL CONSERVATION PROGRAM

ANDES-AMAZON INITIATIVE

The goal of the Andes-Amazon Initiative is to secure the climate function and representative biodiversity of the Andes-Amazon region by ensuring the effective management of protected areas and the landscapes in which they are embedded. This goal requires effective management and land-use regulation of 370 million hectares* of protected areas, an area equivalent in size to 38% of the continental United States. The Foundation's commitment is to establish protection of 70% of this target, with the remaining portion expected to be funded by other government and nongovernmental institutions. Effective management of these lands often must be preceded by creation of protected areas. Creation and effective management of protected areas is at the heart of the AAI. Creation depends on the valuation of such areas by governments and civil society, as well as on expert identification of the ecologically, socially and politically appropriate location of those areas. The durability and integrity of protected areas, on the other hand, depend on the establishment of environmental governance and social and political support. Since AAI's investigation phase in 2001, and subsequent official launching of the Initiative in 2003, 58 grants have been funded, totaling $101.5 million through 2006.



The Initiative team implements four strategies:

- Protected Area Creation and Effective Management
- Capacity Building
- Science
- Policy and Economics

Highlights of progress made on these strategies to date include:

Protected Areas

Strategy: Protected area creation/ effective management

"Protected areas" are created by governments (federal, state or other level) and may be of several categories: "strict protection" areas such as national parks and ecological reserves have a higher value for biodiversity protection; managed use areas such as

**A hectare is 2.471 acres*

extractive reserves or managed forests permit limited resource extraction and other conservation-compatible uses; and indigenous reserves protect the cultural, social and conservation interests of indigenous peoples. Since AAI's initial grant in 2001, Foundation grantees have helped create more than 41 million hectares (an area nearly the size of California) of protected areas of different categories in the Andes-Amazon Region, and the AAI is committed to supporting the creation of an additional 40 million hectares through future grants. Approximately 250 million hectares were already under protected area designation prior to the Initiative inception. Protected area creation is only the first step for effective land protection and management. The Initiative also seeks to improve the management effectiveness on 260 million hectares of new and existing protected areas to ensure that the intended conservation benefits are achieved and preserved over time. As of June 2006, the Initiative has supported the work of grantees seeking to improve management of nearly 148 million hectares of protected areas, achieving measurable progress toward effective and durable management of 65 million hectares.

370

The Initiative's goal requires the effective management of 370 million hectares of Protected Areas, equivalent in size to 38% of the continental United States.

58

Since 2001 58 grants have been funded, totaling $101.5 million through 2006.

World Wildlife Fund—ARPA

One of the largest protected area programs supported by the AAI is the Amazon Protected Areas Program (ARPA), launched in 2002 at the World Summit on Sustainable Development. ARPA is a partnership between the Government of Brazil, the World Bank, KfW (the German Development Bank) the Global Environment Facility, and World Wildlife Fund with resources from the Foundation and other donors. The ARPA program as a whole will create 28 million hectares of new protected areas and place an additional 12.5 million under effective management.

A two-stage Foundation grant, running from 2004 to 2007 and 2008 to 2012, will secure a biologically representative system of well-managed parks and sustainable use reserves encompassing 23 biologically diverse ecoregions. A keystone project within the AAI, ARPA represents an effort to create and manage large conservation areas with intact forest canopy necessary for species survival and for the continuation of ecological and evolutionary processes. ARPA has created nearly 23 million hectares of new protected areas since its inception four years ago, and is working to place them under effective management. With the Foundation's grant, World Wildlife Fund has supported the effective management, operations, and governance programs within ARPA.

IMAZON—Calha Norte Protected Areas

With support from the Foundation, IMAZON and Conservation International (CI) played a strong role in the creation of 12.8 million hectares of protected areas in the Brazilian state of Pará's Calha Norte region. Imazon's role included preparation of technical studies for all the 12.8 million hectares as well as assisting the Pará State Government with the entire public consultation process. Of the total area created about 42% are fully-protected areas and 58% are in State Forests. With this act, the total extent of protected areas in the Pará Calha Norte is now 22 million hectares or 82% of the region.

Capacity Building

Strategy: Capacity Building

The number, staffing level and geographic distribution of locally-based nongovernmental organizations and in-country academic programs in the Andes-Amazon region are currently not sufficient to satisfy the management needs of existing and planned protected areas. The Foundation's capacity building (training and education) investments are reversing this situation through short- and long-term, in-country training on key environmental topics directed at students, NGO project managers and government staff (from protected area managers to park guards). Designed to create a critical mass of highly trained local professionals vital to the success of the Initiative, the capacity building strategy also encompasses support for longer-term in- and out-country education at the undergraduate and postgraduate levels.

Since 2005, the Foundation has made 29 grants that focus exclusively on, or include support for, institutional capacity building. More than 450 individuals representing all AAI-funded countries have received training, through academic and other training programs supported by the AAI, in areas such as environmental policy, management of water resources, economic tools for conservation, and protected area management. Trainees have included agency managers and staff, enforcement officials and park guards.

Additional grants have been awarded for academic work in the region, including support for 114 postgraduate students from the Andes-Amazon Region to study both within and outside the region. New academic programs in environmental and protected area management are being developed and implemented in Colombia, Peru and Brazil, encouraging the education and professional development of in-country environmental experts. AAI grantees have also received support in the form of equipment, technology, tools and training, not only in operational areas but also in project management, financial management, fundraising, and GIS (geographical information system) mapping capabilities.

205,000

Since the Initiative's inception, 205,000 hectares has been brought under private conservation protection.

Instituto Internacional de Educação do Brasil—BECA Program

The BECA fellowship program was established by the Instituto Internacional de Educação do Brasil (IEB) in late 2004, with Foundation funding. The goal of this program is to improve planning, implementation, and management of on-the-ground conservation throughout the Amazon Basin by increasing participation of Brazilian students and conservation professionals in undergraduate and graduate programs and in short, specialized courses. To date, IEB has awarded 54 scholarships to Brazilian students for postgraduate study (both domestic and international), presented 125 grants to undergraduates for fieldwork and technical training toward their bachelor's degrees, and published three books on the Andes-Amazon. Additionally, 60 professional development grants allowed 425 individuals, including university professors and NGO directors, to participate in courses on ecological principles, environmental law, climate change, communications, and economic tools. IEB coordinates or co-produces several of the short courses in partnership with other in-country institutions.

University of Florida—Amazon Conservation Leadership Initiative

The ACLI program leverages a Foundation grant with University and National Science Foundation funds to produce a broad, long-term effort for applied research and capacity

for conservation in Amazonia. The program is enhancing the leadership capacity and effectiveness of regional NGOs, government agencies, and university programs engaged in critical conservation issues. A two-pronged strategy is used to achieve this goal:

1. Focus and support graduate and post-graduate training and applied, problem-based research in selected programs at three universities in the Amazon region (one in Peru, and two in Brazil)
2. Train emerging regional leaders at UF. To date, UF has helped establish Master's programs in Protected Area Management at the Universidad Nacional de la Amazonia Peruana, in Environmental Law at the Federal University of Mato Grosso, and is strengthening an existing Master's program at the Federal University of Acre in preparation for the establishment of a Doctoral Program.

Science

Strategy: Science

Science is a supporting strategy that generates information, tools and knowledge that lead to the development and refinement of the AAI strategic plan. AAI conservation targets are identified, refined, prioritized, and adaptively managed, based on the best available science. The Science strategy provides critical scientific information to support conservation-appropriate policy measures.

Through Foundation support, a range of scientific tools is now available to advance the conservation efforts in the Amazon Basin due to improved research and modeling capabilities. These tools include the development of new software and methodologies for the analysis of satellite images to quantify forest disturbance throughout the Amazon at

high spatial resolution; the modeling and simulation of future land cover change scenarios to inform policy and management decisions; and the mapping of biodiversity to define conservation priorities within selected regions. These tools all play a role in understanding the impact of deforestation on the region's climate and biodiversity. The result has been the identification of priority sites for conservation, as well as the creation of new protected areas and an increased capacity to have a science-based influence on policy-making, conservation planning and protected area effective management.

Woods Hole Research Center

Launched in 2003 and completed in 2006, the Foundation provided a grant to the Woods Hole Research Center to develop SimAmazonia, a science-based integrated computer simulation model for the Amazon Basin. The "Amazon Scenarios" project has now succeeded in building a modeling system (SimAmazonia) that simulates the response of deforestation, logging, forest fire, and climate to the range of conservation strategies that are being advanced in the region. SimAmazonia is the world's only regional, policy-sensitive, modeling system that integrates economic processes, ecosystem responses, and climatic consequences. Its maps and projections have become the scientific foundation for regional planning and ecological economic zoning processes and have made significant contributions to the definition of a forest sector policy for the Brazilian Amazon. SimAmazonia is now the premier model used by decision-makers and forest researchers in the Brazilian Amazon and because of this unique accomplishment it is revolutionizing Amazon conservation, with important spill-over effects into other tropical forest regions of the world.

NatureServe—Mapping Priority Conservation Areas in the Upper Amazon Watershed of Peru and Bolivia

NatureServe used this grant to produce the first integrated, comprehensive ecological maps of Peru and Bolivia. This series of maps will enable resource managers and government agencies in charge of land-use zoning to accurately locate areas of high biodiversity and endemism and plan the location and management strategies of protected areas. A unified map of the 84 terrestrial and aquatic ecological systems occurring in the study area was produced together with spatial data on threats. The geographic distributions of 782 species of plants and animals endemic (i.e., occurring nowhere else in the Andes-Amazon region) to the study area were modeled and mapped based on unique locality data compiled from 18 natural history museums and 62 herbaria in North America, South America, and Europe, and represent the best currently-available estimate of the distributions of these species. The results allowed for fine-scale predictions of where the peaks of endemism are located throughout the study area. The project was concluded with briefings designed to place the results in the hands of the various in-region organizations, government agencies, and individuals involved in on-the-ground conservation and regional planning.

Policy and Economics

Strategy: Policy and economics

The AAI Policy and Economics strategy is closely linked to the Science and Capacity Building Strategies. Its goal is to strengthen the legal framework for conservation by supporting those NGOs that work with governments to establish and implement conservation-appropriate policies based on sound science, and by making information available to donors, land owners and industry that will help them develop and adopt best practices. The strategy also supports the establishment of sustainable forest-based economies that are essential for conservation success in the Amazon. To achieve this, alternative economic systems are supported at the same time that the impacts of consumptive or economic systems and projects are mitigated. For example, AAI grantee IMAZON has been very successful at producing remotely sensed information on illegal deforestation carried out by the informal logging and mining industries and making it available to state prosecutors. Similarly, Sociedad Peruana de Derecho Ambiental (SPDA), highlighted on the next page, has developed new legal frameworks for conservation on private lands in Peru.

Economic development in the Amazon is strongly correlated with infrastructure development. It is neither possible nor desirable to prevent such infrastructure development, but it is possible to decrease its environmental impacts. The AAI works with grantees such as the Conservation Strategy Fund and the Bank Information Center to identify the cost-benefit of planned infrastructure and to provide information to decision makers that enables them to identify those most beneficial and compatible with the conservation objectives for the Basin.

Conservation Strategy Fund—Basin Policy Analysis and Economics Training in Brazil

From 2004 through 2006, CSF carried out economic and policy analysis for several major energy and transportation projects including the Madeira dams, the Belo Monte dam, roads

planned and implemented in the tri-country border region of Bolivia, Peru and Brazil, and for the BR 163 Highway in Brazil. They also carried out economic analysis of Brazilian Amazon protected areas in collaboration with ARPA, and an analysis of the regional economic impact of Madidi National Park in Bolivia. CSF will build on this past policy analysis work through a follow-up grant by working within two consortium frameworks aimed at formulating appropriate land-use planning along two major highway paving projects in the Amazon; the BR-319 in Brazil, and the Transoceanic Highway that runs through the tri-national area of Brazil, Peru and Bolivia. This work is directly linked to a $65 million effort supported by USAID.

Bank Information Center—Building Informed Civic Engagement for Conservation in the Andes Amazon (BICECA)

The Bank Information Center has worked with AAI funding to develop an information infrastructure and the exchange of information on a major economic integration initiative in South America called The Integration of Regional Infrastructure in South America (IIRSA). The IIRSA plan highlights a series of major infrastructure projects planned for the region that could have massive negative impacts on habitat and biodiversity. The system developed with AAI support to BIC has created an information network that communicates about IIRSA, helps align civil society actors, stimulates a collective vision for conservation development, and proposes mitigation actions to policymakers.

Sociedad Peruana de Derecho Ambiental—Private Conservation Instruments Expansion

Many highly biodiverse areas in the Peruvian Andes lie outside of the national protection system. A three-year grant to Sociedad Peruana de Derecho Ambiental (SPDA), an environmental law organization, is enabling increased private conservation activity through its work in environmental regulation. To date, SPDA has clarified Peru's legal requirements regarding private conservation, convened workshops to disseminate information on private conservation, published educational books and CDs on the subject, and participated in environmental law capacity building. When the grant was awarded in 2004, Peru only had two areas under legal private conservation. By the end of 2006, an area covering 205,000 hectares of private reserves had been established in the Peruvian Amazon. Building on the successes of this first grant, SPDA will continue to receive Foundation support to disseminate, refine, and help implement in the Peruvian Amazon the legal framework for private and public biodiversity conservation areas and concessions.

For additional policy and economic advances made by the Initiative, click here.

ENVIRONMENTAL CONSERVATION PROGRAM

MARINE CONSERVATION INITIATIVE

Launched in July 2005, the Marine Conservation Initiative (MCI) seeks to create and maintain resilient and productive marine ecosystems in three focal geographies—British Columbia, the California Current and New England—through the implementation of area-based management (ABM) and fisheries management reform strategies. These geographies were selected for their significant ecosystem services, momentum among key stakeholders to pursue innovative solutions, and their potential to serve as models for sustainable ocean management. Marine conservation outcomes are achieved using a suite of globally applicable marine conservation management tools that can contribute to transforming the management and protection of coastal marine ecosystems beyond the Initiative's focal geographies.

Forty-four grants have been funded, totaling nearly $39 million since MCI was formed. Grants range from one to eight years in duration.

The Initiative's five strategies are to:

- Implement comprehensive ABM by spatially dividing the coastal marine environment for a variety of compatible uses and accounting for the many stressors on the ecosystem
- Reform fisheries management by aligning economic incentives with conservation outcomes; promoting scientifically sound, total allowable catch (TAC) limits that account for ecosystem considerations; and developing conservation-minded technologies
- Execute science needed to inform policy and management
- Employ strategic communications to garner demand for better ocean management and link science to action
- Use policy reform to assure durable and lasting solutions

Highlights of progress made on these strategic areas to date include:

ABM

Strategy: Implement area-based management

The Initiative is working to advance comprehensive ABM in its three focal geographies. Using an integrated, ecosystem-based approach to marine management, ABM incorporates environmental, economic, and social objectives. Comprehensive ABM is intended to reduce conflict between competing users and promote conservation by specifying the most appropriate uses for particular marine areas.

The Resources Legacy Fund Foundation

In 2004, three foundations, including the Gordon and Betty Moore Foundation, contributed funds to a public-private partnership to implement the Marine Life Protection Act (MLPA), an initial step towards integrated ABM in California. Originally passed in 1999, the MLPA's implementation had stalled due to budgetary shortfalls and inadequate public participation processes. Through private funds, renewed gubernatorial support, and the creation of a solid scientific and public input process, the first sub-section of marine protected areas were approved by the Fish and Game Commission in April 2007. This network of protected areas along the South-Central Coast (Pigeon Point to Point Conception) protects close to 200 square miles in state marine reserves, and parks and conservation areas. This network represents almost 18% of the South-Central region, with 8% completely off-limits to fishing. The designation process has already moved to the North-Central region of the coast. The MLPA, by addressing fishing pressure in critical areas, is a valuable first step towards integrated ABM in California.

Management Reform

Strategy: Reform fisheries management

The Initiative also works to reform fisheries management by aligning economic incentives with resource protection. The Initiative approaches this in two ways. First, it promotes the establishment of scientifically sound and ecosystem-based catch limits and Limited Access Privilege Programs (LAPPs). Secondly, it works to develop and promote conservation-minded technological innovations, including cleaner fishing gear, spatial planning tools, and monitoring and enforcement technology. LAPPs, formerly known as dedicated access programs, are an example of a management tool that aligns fishermen's economic incentives with society's conservation goals.

Under LAPP systems, managers allocate a share of a fishery's total catch to individual fishermen, sectors, associations or communities. The value of these shares increases if the fishery is well-managed and the stock expands, so fishermen have a heightened incentive to ensure the long-term sustainability of the resource. When implemented appropriately, LAPPs can have environmental, social, and economic benefits.

Cape Cod Commercial Hook Fishermen's Association

New England groundfish management has proven unsuccessful for both fish and fishermen. Under days-at-sea management, where fishermen have a set number of days in which to fish, a race to fish often results and fishermen have experienced economic hardship, safety issues, and continued overfishing in their fisheries. In 2005, the Foundation provided a two-year grant to the Cape Cod Commercial Hook Fishermen's Association (CCCHFA) to help address these issues. The purpose of the grant was to secure and implement the Georges Bank Fixed Gear Sector and to gain regional acceptance of technologies that demonstrate increased fishermen accountability and improved monitoring. To date, CCCHFA has secured and implemented the Georges Bank Fixed Gear Sector, New England's second LAPP. Based on CCCHFA's initial success, other New England fishermen are exploring LAPPs as alternative approaches to traditional fisheries management.

Execute Science

Strategy: Execute science

The Initiative advances science both within and beyond its focal geographies to develop the field and inform policymaking and resource management decisions. Science is applied to support implementation of ABM and reform fisheries management. The Initiative also focuses on analyzing the impact and applicability of management tools, understanding the structure and function of marine ecosystems, and advancing the field of ecosystem services (i.e., the benefits society obtains from ecosystems).

Duke University

In 2005, the Foundation funded Duke University's Project GLOBAL with the purpose of analyzing data to inform and focus mitigation efforts to prevent the unintended catch of seabirds, turtles, and marine mammals around the world. The project focuses on analyzing bycatch and fishing data, developing new approaches to assessing bycatch, and placing bycatch in an oceanographic context. To date, the grantee has completed bycatch and fishing data profiles for 73 countries, which will be used to construct regional assessments for six global regions. Regional summaries are being assembled for six areas (including the Southern Ocean, the Mediterranean, the Northeast Atlantic, the Northwest Atlantic, the North Pacific, and Oceania). In addition, a "rapid bycatch assessment" protocol has been developed to collect bycatch information directly from fishermen in data-poor regions, such as the Western Indian Ocean and the West African Coast. These rapid assessments help shed light on the global impact of artisanal fisheries and inform mitigation efforts to prevent bycatch around the world. This three-year project is scheduled to conclude in 2008.

Communications

Strategy: Strategic communications

The Initiative uses strategic communications to target key stakeholders, including federal and regional policymakers, scientists, commercial fishermen, recreational fishermen and local communities. Within its focal geographies, strategic communications is used to educate and create demand for better ocean management, influence key constituencies, and link science to policy more effectively. To do this, the Initiative works to monitor, evaluate, and disseminate key results, principles, and lessons learned.

Environmental Defense

In 2004, the Foundation made a grant to Environmental Defense to undertake a comprehensive, retrospective analysis of the performance of LAPPs implemented to date in the US and Canada's West Coast. In this study, Environmental Defense and its partner, Redstone Strategy Group, completed an extensive literature review of over 100 fisheries and conducted expert interviews and in-depth analyses in 10 existing LAPPs in North America. The findings indicate that, when designed appropriately, LAPPs can have significant environmental, social, and economic benefits. With this objective analysis and guidelines in hand, local managers will be better able to use LAPPs to transform fisheries management and move US and Canadian fisheries on a path to sustainability.

As part of its grant, Environmental Defense conducted a targeted communications campaign to share results of the study with key audiences in fisheries management, including scientists, council members, and policymakers. Campaign components included a summary report, released at the National Press Club, and a Web page

to house further supporting information. The campaign resulted in over 100 media articles. Throughout 2007, Environmental Defense will focus on communicating the results to key decision makers in New England and the West Coast.

Policy Reform

Strategy: Policy reform

Promoting marine conservation policy at regional, national, and international levels is intended to achieve durable and lasting solutions in MCI's targeted geographies and effectively scale-up local successes to national and international gains for marine conservation. In the US and Canada, educational activities that provide information for developing appropriate federal enabling legislation can enhance local innovation in management. Successes in the Initiative's focal geographies can catalyze policy reform at the national level. At the same time, efforts at the national level are required to educate policymakers on policy changes needed to secure durable marine conservation outcomes. Progress in policy reform to date is reflected in the Resources Legacy Fund Foundation (MLPA work) and Environmental Defense (LAPPs programs) grants previously mentioned.

ENVIRONMENTAL CONSERVATION PROGRAM

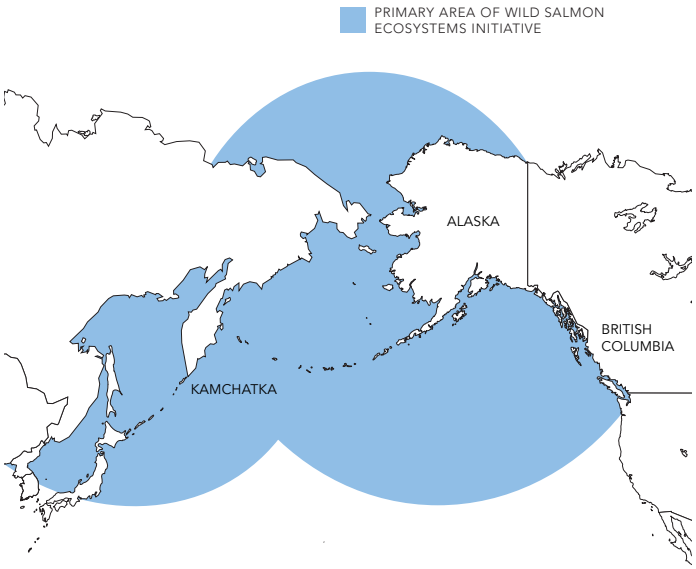
WILD SALMON ECOSYSTEMS INITIATIVE

Salmon ecosystems are comprised of a suite of interconnected habitats used and enriched by salmon. During their life cycle, individual salmon occupy a series of diverse habitats, starting in streams and lakes and moving through estuaries to the ocean before returning to freshwater as adults. Because salmon are sensitive to habitat quality in each phase of their life history, thriving salmon populations are a good indicator of the overall health of the entire ecosystem. The Foundation's Wild Salmon Ecosystems Initiative is working in collaboration with grantees and stakeholders to ensure that these salmon ecosystems remain healthy and continue to produce abundant wild salmon.

Seventy-four grants have been funded, totaling $88.2 million, since the Wild Salmon Ecosystems Initiative was formed in 2002. Grants range from one to five years in duration.

To achieve its goals, the Initiative focuses on three strategies:

- Increasing watershed habitat protection in the North Pacific. Specifically, Russia's Kamchatka Peninsula, Southeast and Southwest Alaska, and central and northern British Columbia
- Ensuring that salmon aquaculture and harvest management practices are sustainable
- Advancing salmon ecosystem science



Highlights of progress made on these strategic areas to date include:

Watershed Protection

Strategy: Increased watershed habitat protection in the North Pacific

The Foundation's investment and grant efforts have included working with governments to establish salmon refuges (Kamchatka); facilitating multi-stakeholder land-use planning solutions (British Columbia); and directly ensuring conservation outcomes by purchasing easements on private lands and transferring them to existing protected areas (Southwest Alaska).

Coast Opportunities Foundation (Great Bear Rainforest Agreement)

Since 2002, the Foundation has been working with the Rainforest Solutions Project to promote an unprecedented collaboration among environmental organizations, industry, First Nations leaders, and the Canadian government aimed at enhancing conservation and economic diversification in a region on the central coast of British Columbia known as the "Great Bear Rainforest" (GBR). At the heart of this collaboration was an innovative agreement that proposed to provide long-term financing for conservation management and sustainable economic development in exchange for substantially increased habitat protection. To help put together this novel, conservation-financing package, the Foundation worked in close collaboration with US and Canadian funders and NGOs, including The William and Flora Hewlett Foundation, the David and Lucile Packard Foundation, Wilburforce Foundation, Rockefeller Brothers Fund, Tides Canada Foundation, and The Nature Conservancy. Together, these groups helped raise more than C$60 million in private contributions, which the British Columbia provincial and Canadian federal governments have pledged to match. The GBR Agreement was officially announced in February 2006. This Agreement helps protect the 21-million-acre GBR, including over five million acres under strict protection.

$60 Million

The amount of funds many foundations contributed to help protect 21 million acres in the Great Bear Rainforest.

Wild Salmon Center's Kamchatka Program

The Foundation has supported the Wild Salmon Center's (WSC) work in Kamchatka since 2001. WSC has worked with the Russian government and local partners to establish new protected areas in Kamchatka and to build the capacity to manage them. In 2006, WSC helped secure official gubernatorial designation of the Kol River Salmon Refuge. The first of its kind, this 544,000-acre, headwaters-to-ocean watershed preserve devoted to salmon habitat protection was designed around land and freshwater ecosystem boundaries. Biostations were established to launch new research into salmon ecology and to lay the groundwork for monitoring the effectiveness of protected areas over time. In August 2006, the Governor of Kamchatka signed a memorandum of understanding with WSC's Russian affiliate, pledging to work jointly to drive the creation of five new protected areas for the purpose of salmon conservation. As with the recently designated Kol salmon refuge, the objective is to protect these five watersheds from headwaters to ocean, preserving approximately five million acres of critical salmon ecosystems habitat.

The Conservation Fund

In 2003, with Foundation grants, The Conservation Fund (TCF) launched its Southwest Alaska Salmon Habitat Initiative, a broad-based, partner-driven project to protect habitat for wild salmon in Southwest Alaska by acquiring strategic lands and conservation easements in key watersheds. (Some 64% of Southwest Alaska is in refuges or parks.) Securing agreements to protect these private lands through purchases, conservation easements, or management agreements, while allowing compatible, sustainable human use, is key to ensuring long-term conservation.

With matching or given funds from other organizations, TCF acquired 37,360 acres around Morzhovoi Bay on the Alaska Peninsula. This property encompasses over 100 miles of salmon streams, 10 lakes, and 40 miles of ocean coast. TCF donated the property to the government as the permanent steward and the land was included as part of the Alaska Peninsula National Wildlife Refuge. Additionally, with partner funds, 13,047 acres were acquired at Canoe Bay on the Alaska Peninsula. This property features exceptional migratory bird values and several major salmon populations and is now part of the Alaska Peninsula National Wildlife Refuge. Native allotments or other tracts along major salmon systems have also been acquired through partnership funds, protecting a total of 3,266 acres of important salmon habitat.

Ecotrust's Copper River Program

The Foundation's initial grant to Ecotrust was approved in 2001 to support their programs to protect the Copper River watershed and its key salmon populations. During this project, Ecotrust has sought to transform the management of this watershed by using targeted land acquisitions, developing critical decision-support tools, and piloting

a forum for stakeholders to engage on policy issues at the watershed scale. Key accomplishments include:

1. The completion of the Copper River Knowledge System
2. The launch of the Copper River Workshop series
3. The acquisition of private parcels at Mummy Island, Berg Lakes and Controller Bay.

The Copper River watershed is one of the premier wild salmon ecosystems on the Northern Pacific Rim. Biologically, it is valuable for its distinctive runs of upper-river sockeye and the critical habitat the delta provides for migratory birds and other species. Commercially and culturally, the Copper River provides one of the best examples of the interdependence between salmon and the communities that harvest them. The Foundation is currently supporting Ecotrust in its efforts to launch the Copper River Watershed Council/Collaborative.

Sustainable

Strategy: Ensuring that salmon aquaculture and harvest management practices are sustainable

In addition to enhancing habitat protection, the Foundation has also invested in efforts to ensure that the abundance and diversity of wild salmon are not put at risk by current or future salmon management practices.

Living Oceans Society

A grant was provided to the Living Oceans Society in 2003 to support the work of the Coastal Alliance for Aquaculture Reform (CAAR), a coalition effort focused on promoting more sustainable salmon aquaculture practices. Through this grant, CAAR negotiated an agreement with Marine Harvest, the world's largest aquaculture producer, to formalize a "framework for dialogue" outlining the terms under which they will work together towards sustainable aquaculture solutions. This framework makes substantial commitments to collaborative NGO–Industry research on sea lice, closed containment systems (such as impermeable pens that prevent wild fish from entering, farmed fish from escaping, and diseases from transferring between populations), migration corridors, and other changes in operations.

An extension of this grant supports CAAR to implement the Agreement. Additionally, a grant was given to Middle Bay Sustainable Aquaculture Institute to carry out a demonstration project designed to assess the technological feasibility of closed containment production, and to provide data to model/analyze its potential commercial viability.

Ecosystem Science

Strategy: Advancing salmon ecosystem science

Helping stakeholders understand the function of salmon ecosystems through evidence-based research will lead to better-informed decisions. For example, recent studies have shown that ensuring the long-term productivity of salmon populations may require new management approaches that promote biocomplexity, as growing evidence shows that individual salmon populations are linked to each other via changes in climate and species interactions in the ocean. As a result, effective management decisions may require consideration of events outside of local jurisdictions.

University of Montana's Flathead Lake Biological Station

This grant was approved in 2003 and was completed in 2006. Through this grant, the University of Montana established a novel set of pristine Salmonid River Observatories, which are reference systems that can be used to advance the study of both pristine and degraded salmon watersheds around the Pacific Rim. Because of the focus on conservation in degraded watersheds, relatively little attention has been devoted to examining how pristine systems function and what can be learned from them. The Salmonid Rivers Observatory Network conducts standardized studies of how salmon diversity and habitat complexity determine salmon productivity in pristine watersheds spanning British Columbia, Alaska, and Kamchatka. As part of this work, investigators are also exploring how river systems form suitable habitats. More information about this project may be found at www.umt.edu/flbs/.

University of Washington—School of Aquatic and Fishery Sciences

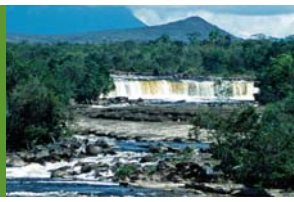
This grant, approved in 2005 and expected to continue through 2008, supports research on production in salmon ecosystems in Southwest Alaska. This work advances the body of knowledge on how salmon diversity and habitat complexity are related to ecosystem productivity and resilience. The emerging message is that maintaining the long-term sustainability and resilience of salmon populations will require keeping whole complex systems intact, while simplifying and degrading watersheds and salmon populations erodes their natural ability to respond to environmental change. This idea is in direct contrast with some historical management practices that emphasized simplifying salmon ecosystems to achieve optimal production, an approach that has led to some short-term success, but many long-term declines.

University of Washington—Joint Institute for the Study of the Atmosphere and Ocean

This grant was approved in November 2005 and is expected to be completed in November 2007. Through Foundation grants, scientists at the University of Washington, Simon Fraser University, Flathead Lake Biological Station, WSC, NRC, and the University of British Columbia developed a salmon Model for Assessing Links Between Ecosystems (MALBEC), a new tool that knits together existing information on salmon stocks around the Pacific Rim to explore ecosystem interactions and future scenarios. This team also developed a new Pacific Rim historical database for 135 populations of pink, chum, and sockeye salmon. With the historical database and the model, specific scenarios can be incorporated to generate hypotheses about the consequences of changes in stock productivity, freshwater habitat, hatchery production, climate change, and fisheries practices. The model is now ready for "policy gaming" experiments in support of conservation planning and fishery management at the scale of large river basins up to the entire North Pacific Rim.

ENVIRONMENTAL CONSERVATION PROGRAM

CONSERVATION INTERNATIONAL COMMITMENT



From late 2001 through the end of 2006, the Foundation has made $355 million in commitments to Conservation International (CI) to significantly increase its efforts to slow the rate of species extinctions across the world and to develop marine conservation science. This Commitment also supports CI resources to pursue biodiversity conservation strategies, build capacity to implement, monitor, achieve and manage large-scale biodiversity outcomes.

The Foundation's commitment to CI further enhances biodiversity science and protection of ecosystems in key geographies. With this support, CI has made substantial contributions to biodiversity science and, in partnership with other organizations, is working to protect key hotspots and wilderness regions of the planet. Their work is focused on a set of scientifically defined conservation outcomes at the species, site, and corridor levels.

Progress that CI programs have achieved with Foundation funds through 2006 include:

Global Conservation Fund

The Global Conservation Fund (GCF) finances the creation, expansion, and long-term management of protected areas in the world's biodiversity hotspots, high-biodiversity wilderness areas, and important marine regions. From the last remaining habitat of Sumatran tigers to the marine wilderness areas of the South Pacific, GCF investments are helping secure the protection of some of the most globally significant biodiversity on Earth.

Since its inception in 2001 as the first fund of its kind, GCF has provided CI regional programs and dozens of partner organizations, governments, and communities with the

funds to plan, enable, and create 43 new protected areas and expand five existing protected areas. The new and expanded protected areas covering more than 38 million hectares of biologically rich land and sea—almost three times the size of New York State—include national parks and other government-managed areas as well as community reserves that combine the goal of conservation with benefits for the communities themselves.

Highlights to date include:

- GCF played a key role in debt-for-nature swaps in Colombia, Guatemala, and Peru by joining with the U.S. government and other organizations to purchase more than $44 million in debt. These funds are now supporting tropical forest conservation through protected area creation and management.
- Land deals in the Valdivian Coastal Forests of Chile, the Namaqualand Wilderness of South Africa, and the Belizean Mesoamerican Reef have permanently safeguarded more than 87,000 hectares of critical habitats.

43

New protected areas created since the inception of GCF in 2001.

38

Millions of hectares in protected areas—almost three times the area of New York state.

Center for Applied Biodiversity Science

Founded in 1999 by a personal grant from Gordon and Betty Moore, the Center for Applied Biodiversity Science (CABS) functions as the scientific research core of CI. CABS compiles and analyzes baseline data on biodiversity, develops responses to possible threats, and works closely with field programs and partner organizations to establish targets and priorities for conservation actions. Its staff of research scientists produces new knowledge about Earth's plant and animal life, identifies the best opportunities for preserving it, and delivers new methods and strategies to apply in the field.

Highlights to date include:

- In collaboration with the World Conservation Union (IUCN), CABS helps assess the conservation status of thousands of species worldwide; each species is mapped and its extinction risk is estimated using the IUCN Red List Categories and Criteria. The Global Amphibian Assessment has shown the catastrophic decline taking place in the world's frogs, toads, and salamanders. The collaboration is also conducting the Global Mammal Assessment (results expected in 2008), the Global Reptile Assessment, the Global Marine Species Assessment (results on sharks, groupers, and corals expected in 2008), and the Global Cycad Assessment (to be completed in 2008). The data produced through these

assessments are expected to be used for conservation planning, environmental impact assessments, policy development, and resource allocation in many parts of the world.

- CABS has completed deforestation maps for the non-Brazilian Amazon and tropical Andes regions and for the SW China Hotspot, the latter showing an annual loss of 0.1 percent per year. CABS researchers have also completed a forest cover and forest change analysis for the island of Sumatra, showing a deforestation rate of 25% over ten years (1990-2000). These maps and analyses can be used for a number of applications, from habitat analysis to determining carbon stock or carbon loss estimates within the context of the Kyoto Protocol.

Marine Managed Area Science

The Marine Managed Area Science (MMAS) program within CABS conducts science on MMA effectiveness and marine ecosystem processes. The program shares the science to increase stakeholder awareness and improve management decisions. Additionally, the program builds local capacity within CI and its partners to produce outcomes in Belize, Brazil, the eastern tropical Pacific and Fiji. The MMAS work has involved the establishment of partnerships with key international organizations to ensure that the science findings result in conservation action.

MMAS results are catalyzing the development of a "Science to Action" (S2A) framework for ensuring the marine managed area research is designed, conducted, and translated into conservation actions at the local to regional levels around the world. To date, S2A workshops have been held in Belize and the eastern tropical Pacific in which the principal investigators and stakeholders from government, NGOs, and the private sector provided input and discussed how the various research projects could most effectively contribute to conservation efforts.

Tropical Ecology, Assessment and Monitoring Initiative

Under its Tropical Ecology, Assessment and Monitoring (TEAM) initiative CI is developing a network of scientific field stations and a surveillance system to capture the first standardized set of long-term data on tropical biodiversity. TEAM now has five sites collecting data in the Neotropics and has completed a rigorous strategic review and science plan to guide the global network development. Through annual network meetings, and web-based collaboration tools, TEAM has evolved from a collection of sites into a true network that is a community of scientists with common goals, methods, and standards. The first iteration of the TEAM data management system has been deployed, a data use policy is in place, and data are now accessible through the web in near real time. TEAM developed a key partnership with CALIT2 to develop and deploy the next generation network cyberinfrastructure. In collaboration with an international team of herpetologists, in 2007 TEAM developed the first global amphibian monitoring protocol. TEAM also appointed an independent Science Advisory Board to provide strategic advice on TEAM science.

Centers for Biodiversity Conservation

Decentralized Centers for Biodiversity Conservation in the Andes, Brazil/Guiana, Melanesia, and Madagascar have allowed CI to forge strategic partnerships and build better foundations in the field for biodiversity conservation. The establishment of the Brazil-Guianas CBC has provided an opportunity to dramatically increase the scale of conservation of biodiversity across the Guayana Shield and in other regions in Brazil. Historically, conservation programs have focused mainly on sites within individual countries, working with communities and national governments. The CBC model has helped Brazil and the Guianas expand their visions from the establishment of individual protected areas and community conservation areas in the Brazilian Amazon, Suriname and Guyana, to the creation of a 70 million hectare conservation corridor. This spans parts of Venezuela, Northern Brazil and all of Suriname, Guyana, and French Guiana.

In the Brazilian Amazon where more than half of this conservation mega-corridor exists, results have been possible through a combination of new political will at the State and Federal levels (State of Para, State of Amapa, Federal Government), as well as strong collaborations between the Brazil CBC and Amazon Institute of People and the Environment (IMAZON), Brazilian Ministry of the Environment' (IBAMA), and the Goeldi Museum. Among the new reserves created is the world's largest tropical forest reserve, the Ecological Station Grão-Pará (Category I from IUCN), with 4.25 million hectares established by the Government of the State of Para. For examples of progress made by the CBC in Madagascar, the Andes, and Melanesia, click here.

SCIENCE PROGRAM

MARINE MICROBIOLOGY INITIATIVE

CALIFORNIA INSTITUTE OF TECHNOLOGY COMMITMENT

SCIENCE PROGRAM

MARINE MICROBIOLOGY INITIATIVE

Oceans cover over 70% of Earth's surface and play key roles in regulating climate and composition of the planet's atmosphere. Based on such physical and chemical features as temperature, salinity, pressure, nutrients and light, the global ocean can be divided into various habitats that support different communities of macro- and micro-organisms. Because marine microbes drive biogeochemical processes required for life on Earth such as nitrogen fixation and photosynthesis, a comprehensive understanding of marine microbial communities and how they contribute to the health of the planet is a fundamental scientific goal. Furthermore, marine microorganisms play a major role in oceanic carbon sequestration offsetting about 30% of carbon emitted to the atmosphere by the burning of fossil fuels.

The Foundation's Marine Microbiology Initiative (MMI) supports discovery and dissemination of scientific findings and technological developments in the fields of marine microbiology and microbial ecology, which contribute to a greater understanding of ocean health and productivity.

Thirty-four grants have been funded, totaling $83.5 million, since the Marine Microbiology Initiative was formed in 2004. Grants range from six months to seven years in duration.

To achieve its goals, the Initiative focuses on three strategies:

- Support for Marine Microbiology Investigators
- Multidisciplinary expansion of the field of marine microbiology
- Creation of high impact research infrastructure

Highlights of progress made on these strategic areas to date include:

Strategy: Support for Marine Microbiology Investigators

Funding for Marine Microbiology Investigators exemplifies the Science Program's philosophy of promoting scientific discovery through tactical exploration. Unlike grants made under the other two MMI strategies which require researchers to adhere to fixed research plans, Marine Microbiology Investigator grants are unique in that they provide flexibility for experts to quickly respond to new developments in their scientific fields without constraining them to rigid, and perhaps obsolete, research goals. The awards allow talented researchers to extend the boundaries of marine microbiology and marine microbial ecology through innovative hypotheses and approaches unlikely to be supported by conservative funding agencies.

To date, examples of progress made as a consequence of supporting Investigators include:

Gordon and Betty Moore Foundation Investigators in Marine Microbiology

Marine Microbiology Investigator grants to higher education institutions provide support for exemplary researchers who are focused on specific and complementary areas of marine microbiology including ecology, modeling of complex systems, oceanography, and genomics. It has contributed to the development of a cadre of highly specialized, expertly trained new marine microbiologists and microbial ecologists. Funding provided for the work of these talented researchers have had an amplification effect; each investigator is responsible for training as many as 20 undergraduates, graduate students, and postdoctoral fellows in the specific, highly technical disciplines that comprise the fields of marine microbiology and marine microbial ecology. Over the three years of Investigator support, approximately 100 young scientists have received or are receiving state-of-the-art training in the laboratories of 12 Investigators, greatly strengthening the foundation of marine sciences as a whole and benefiting the field of marine microbiology specifically.

100

Approximately 100 young scientists have received or are receiving state-of-the-art training supported by Investigator grants

12

12 Investigators affiliated with institutions of higher education are supported by the Foundation

Another significant impact of Investigator grants is the establishment of robust, productive collaborations among scientists who together have significantly accelerated scientific progress where they once competed against each other for scarce funding. At a time when government funding for ocean sciences is scarce, scientists have little choice but to be protective of innovative approaches to pivotal questions so as to present a competitive edge in funding competitions. Under such cirmcumstances, scientists are unlikely to collaborate unless the possible benefits of doing so greatly outweigh the significant risk. Foundation grants have freed and encouraged scientists to collaborate with each other, facilitating progress with the benefit of multidisciplinary input from experts in different fields. Many of the key accomplishments described below are the consequence of Investigator collaborations. For examples of scientific discoveries made as a consequence of supporting talented investigators click here.

Expansion

Strategy: Multidisciplinary expansion of the field of marine microbiology

The Foundation holds a "systems" view of oceans and makes grants to develop predictive computational systems biology models that address ecosystem responses to environmental changes across scientific disciplines. The study of biology has long benefited from the reductionist approach where complex systems are taken apart to better understand their various components. Now systems biology, focused on "putting together" rather than "taking apart," allows for a more holistic understanding of complex biological principles with the goal of better understanding how system characteristics and activities emerge over time.

Massachusetts Institute of Technology—Department of Earth, Atmospheric and Planetary Sciences (DARWIN)

A major challenge in understanding changes that significantly affect our planet is measuring and modeling the role of ocean ecosystems in the global carbon cycle. This is particularly challenging given the natural selection of random changes that occur in living organisms as they evolve. The Massachusetts Institute of Technology (MIT) designed a novel marine ecosystem model that strives to simulate evolutionary outcomes based on specific data inputs. Researchers seeded the computational model with representatives of many phytoplankton types (photosynthetic microbes) whose traits (e.g. high light-adapted vs. low light-adapted) were randomly assigned using field and laboratory data to generate an emergent community structure and biogeography consistent with actual (observed) global phytoplankton distributions. The emergent global distributions and physiological properties simultaneously correspond to field observations, confirming the value of this systematic approach as predictive of relevant findings. Foundation funding allows MIT to use this flexible modeling of community structure to explore relationships of microbial ecosystems, and biogeochemical cycles to climate change.

University of California, Santa Cruz—Department of Ocean Sciences, Institute of Marine Science (MEGAMER)

Through this grant, the facility for Microbial Environmental Genomic Applications: Modeling, Experimentation and Remote Sensing (MEGAMER) was established to provide an environment for the advancement of research and applications of remote instrumentation, sampling and modeling of microbes and microbiological processes in the oceans. A prototype instrument for the remote monitoring of microbial population distribution, productivity and nitrogen fixation rates in the California current ecosystem is a primary goal of the project, and its development requires the multidisciplinary efforts of engineers, microbiologists, molecular biologists and oceanographers, among others. To date, the prototype instrument has been deployed and genomic probes have been used successfully to detect microbial populations in the water column. The multidisciplinary team has begun tailoring the molecular probes to expand the capabilities of the instrument to report metabolic activities of microbes to augment to biodiversity surveys.

High Impact Research

Strategy: Creation of high impact research infrastructure

Grants made under the high impact research strategy were designed to provide conceptual and infrastructure innovations to the marine microbial ecology community as a whole. These projects include the creation of a publicly available collection of marine DNA sequence information and associated data for use by scientists in the fields of oceanography, marine microbiology, ecology, biogeochemistry, modeling and evolution. Specifically, these grants enabled the creation of a first-in-class cyberinfrastructure for complex environmental (metagenomic) data, a marine microbial genome sequence collection and metagenomic DNA sequence information from samples taken from oceans around the world.

University of California, San Diego—California Institute for Telecommunications and Information Technology (Community Cyberinfrastructure for Advanced Marine Microbial Ecology Research and Analysis [CAMERA])

This grant enabled the creation of a community resource and intellectual data center that facilitates advances in marine microbial ecology, the microbial ecology of other natural environments, and evolutionary biology through the analysis of microbial DNA sequence information from environmental samples. Since the launch of this first-in-class metagenomics database on March 13, 2007, over 900 users from more than 40 countries have registered to use the data, and at least three peer-reviewed research papers based on the data have been published.

J. Craig Venter Institute—Microbial Genome Sequencing Project

In the wake of the sequencing of the human genome and others, technological advancements have enabled the relatively inexpensive determination of the total DNA content of any organism (genomic sequencing). In an effort to help the scientific community better understand the organisms that drive the biogeochemical cycles of the ocean, MMI launched an effort to sequence the genomes of over 150 marine microbes at a time when genomes of just 18 marine organisms had been sequenced. All DNA sequence data is to be available to the entire scientific community through CAMERA and other public DNA databases.

Since this effort requires the ability to grow 150 axenic (uncontaminated, pure) cultures of marine organisms in the laboratory prior to preparing their DNA for sequencing, the project requires the coordinated efforts of several laboratories around the world to grow and submit samples to the J. Craig Venter Institute for DNA sequencing.

To date, 80 genomes of microorganisms have been sequenced. This reference set of microbial genomes allows researchers around the world to compare snippets of microbial DNA from ocean samples to "known" sequences in the reference set with the goal of identifying and understanding the relatedness of microorganisms from ocean ecosystems.

At conferences around the world, scientists are sharing their findings based on comparative analysis of the 80 sequenced genomes, confirming that a set of reference genomes provides not only a means to understand microbial metabolism at work in the sea from organisms grown in laboratories, but also a strong foundation to interpret environmental DNA sequence information from complex microbial communities in the ocean.

SCIENCE PROGRAM

CALIFORNIA INSTITUTE OF TECHNOLOGY COMMITMENT

The Foundation has committed $300 million in potential grants over 10 years to the California Institute of Technology (Caltech) to support the Institute in maintaining its position at the forefront of higher education and scientific research and to help foster exciting, transformative discoveries for the future. Caltech attracts world-renowned scientists and engineers, and is pursuing some of the most extraordinary and poignant research in science today.

Since 2001, the Foundation has funded 21 grants to Caltech ranging from $1 million to $30 million, with the duration of grants ranging from 1 to 10 years. Through 2006, $260 million of the $300 million Commitment has been awarded.

Highlights of scientific advancements stemming from the Foundation's grants include:

The Center for Analysis of Higher Brain Function

The grant to create the Center for Analysis of Higher Brain Function was approved in April 2002 and is expected to run through May 2010. The goal of the Center is to understand human consciousness by imaging the brain in development, function, and dysfunction. The Center draws on faculty from all of the divisions of Caltech. The Center's lab is now complete and operational. Highlights of the lab's accomplishments include: Human and nonhuman primate MRI instruments are fully operational and in high use; Caltech has established itself as a major center of the emerging field of neuroeconomics (the application of modern neuroscientific methods to questions that are relevant to economic and business research); and the Center has obtained its first major National Institutes of Health grant.

A few of the recent scientific advances made through funds from the Foundation's grant illustrate the diversity of the work performed in the Center. These include developing a clinical neural prosthetic device to restore communicative and motor functionality to severely paralyzed patients; exploring the possibility of reading subjects' intentions directly from their brain activity; and using MRI's to measure the coherence and orientation of nerve fiber tracts within an entire brain. More information on the Center for Analysis of Higher Brain Function can be found at http://magnet.Caltech.edu.

The Cryoelectron Microscopy Laboratory

This grant was approved in November 2002 and was completed in November 2004. Caltech used these funds to establish a Cryoelectron Microscopy Laboratory and equip it

with two cryoelectron microscopes, which are capable of helping scientists see biological structures that are too small for conventional electron microscopy and too large to be resolved by X-ray crystallography. The facility now also has all the equipment needed to handle thick specimens, which are fundamental in studying large cells and tissues.

Two of the many significant projects from the work performed in the Laboratory are

1. the development of a "distributed computation system," useful for single particle analysis. This work was published in the journal Structure; and
2. the production of three-dimensional structures of intact, native HIV-1. These findings were published in the Journal of Molecular Biology. More information on the Cryoelectron Microscopy Laboratory can be found at http://www.jensenlab.Caltech.edu/.

Design and Cost Analysis for the Thirty-Meter Telescope

Grants to Caltech and the University of California were approved in 2003 and are expected to run through 2009. The goal of these grants is to initiate a detailed design study of the Thirty-Meter Telescope (TMT). This giant optical/infrared telescope is larger than any ground-based telescope in operation. Caltech and the University of California will collaborate with

the Association of Universities for Research in Astronomy and the Association of Canadian Universities for Research in Astronomy for the detailed design phase of the telescope.

Many of the Telescope's functions have been designed or are in review. These functions include: segmented primary mirror fabrication; segment support and motion control system (preliminary); TMT first-light adaptive optics system; nine TMT science instruments; telescope dome enclosure concepts; and site testing equipment fully deployed at five candidate sites in Chile, Hawaii and Mexico. More information on the Thirty-Meter Telescope can be found at http://www.astro.Caltech.edu/observatories/tmt/.

Combined Array for Research in Millimeter-wave Astronomy

This grant to Caltech, approved in November 2004 and completed in November 2006, partially funded construction costs for the Combined Array for Research in Millimeter-wave Astronomy (CARMA). This project helped merge the six 10.4-meter telescopes (or antennas) of Caltech's Owens Valley Radio Observatory array with the nine 6.1-meter telescopes (antennas) of the Berkeley-Illinois-Maryland Association array to produce a new and more

powerful instrument at a 7,200-foot elevation site at Cedar Flat, in the Inyo Mountains near Big Pine, California. By merging the telescopes and combining the detected signals through a process called interferometry, the array can produce extremely high-definition pictures.

15

Six 10.4-meter telescopes of Caltech's array are merged with nine 6.1-meter telescopes of the Berkeley-Illinois-Maryland Association, forming a 15 telescope array

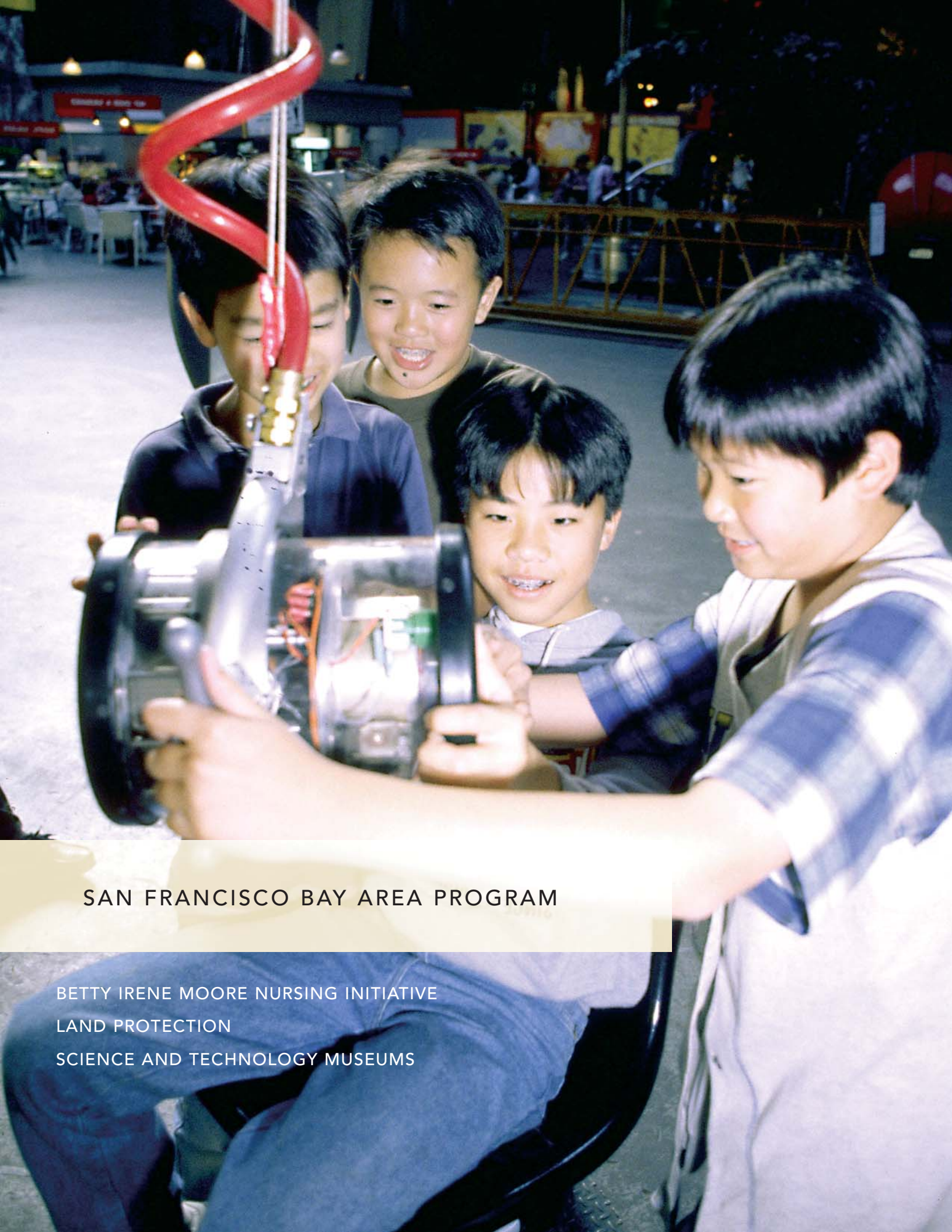
7,200

The new, powerful instrument is located at a 7,200-foot elevation site in the Inyo Mountains near Big Pine, California

CARMA is a collaborative project of the Caltech, the University of California at Berkeley, the University of Illinois, and the University of Maryland. CARMA "first light" was achieved in August 2005 and observations with all 15 antennas working together (i.e., on 105 simultaneous "baselines") were first obtained on April 1, 2006. More information on the Combined Array for Research in Millimeter-wave Astronomy project can be found at http://www.ovro.Caltech.edu/.

The Tectonic Observatory

This grant was approved in July 2004 and will run through July 2009. Caltech is using this grant to build the Caltech Tectonics Observatory (CTO), which is part of a 10-year initiative aimed at revolutionizing earth sciences research. As part of this initiative, Caltech will utilize the latest technologies and multidisciplinary research methods to study the tectonic plate boundaries. The Observatory allows scientists from many fields to develop a more profound understanding of how plate boundaries work than would be possible for investigators working separately. Early efforts of the CTO have focused on building an infrastructure in which geologists, geochemists and geophysicists are working jointly on common problems. More information about Caltech's Tectonic Observatory, including a bibliography of over 60 journal articles produced from projects and data from the Observatory, can be found at http://www.tectonics.Caltech.edu/.



SAN FRANCISCO BAY AREA PROGRAM

BETTY IRENE MOORE NURSING INITIATIVE

LAND PROTECTION

SCIENCE AND TECHNOLOGY MUSEUMS

SAN FRANCISCO BAY AREA PROGRAM

BETTY IRENE MOORE NURSING INITIATIVE

The Betty Irene Moore Nursing Initiative (BIMNI) seeks to improve nursing related patient outcomes in adult acute care hospitals in five San Francisco Bay Area counties: Alameda, Marin, San Francisco, San Mateo and Santa Clara. Since BIMNI was approved by the Foundation's Board of Trustees in late 2003 through 2006, over 62 grants have been awarded, totaling $58.4 million. Grants awarded range from $20,000 to $7.4 million and are made in durations that range from one to nine years.

The Initiative has identified two strategic areas for investment:

- Develop a larger, more highly skilled RN workforce
- Implement more effective hospital practices

Highlights of progress made include:

Highly Skilled RNs

Strategy: Develop a larger, more highly skilled RN workforce

As the largest healthcare workforce providing approximately 95% of all patient care in US hospitals, nurses are essential for safe and effective patient care. However, high-quality health care is threatened as hospitals experience a growing shortage of nurses and as hospital environments rapidly transform in response to changing patient populations and increasing illness acuity. It is through partnerships with schools of nursing, hospitals and nursing associations that BIMNI is supporting efforts to train and fund more RN educators, expand pre-licensure nursing education programs, create continuing clinical training for new RNs, and optimize the RN education system and increase collaboration. Since BIMNI's grantmaking began, the Bay Area has increased education capacity at schools of nursing and has created greater availability of new highly trained RNs for acute care hospitals.

Specifically, the Foundation's grantees have:

- Produced 131 new registered nursing graduates in the Bay Area, beyond the number of graduates nursing schools would have produced without Foundation grants
- Expanded enrollment in pre-licensure nursing education programs by 277 students beyond the level prior to BIMNI funding
- Graduated 14 new nurse faculty with 78 more expected to graduate in 2007 as a result of grants made to post-baccalaureate education track programs in local nursing schools
- Created greater efficiencies between schools and hospitals, and have developed more collaborative strategic partnerships. See grant examples below.

San Jose State University Foundation

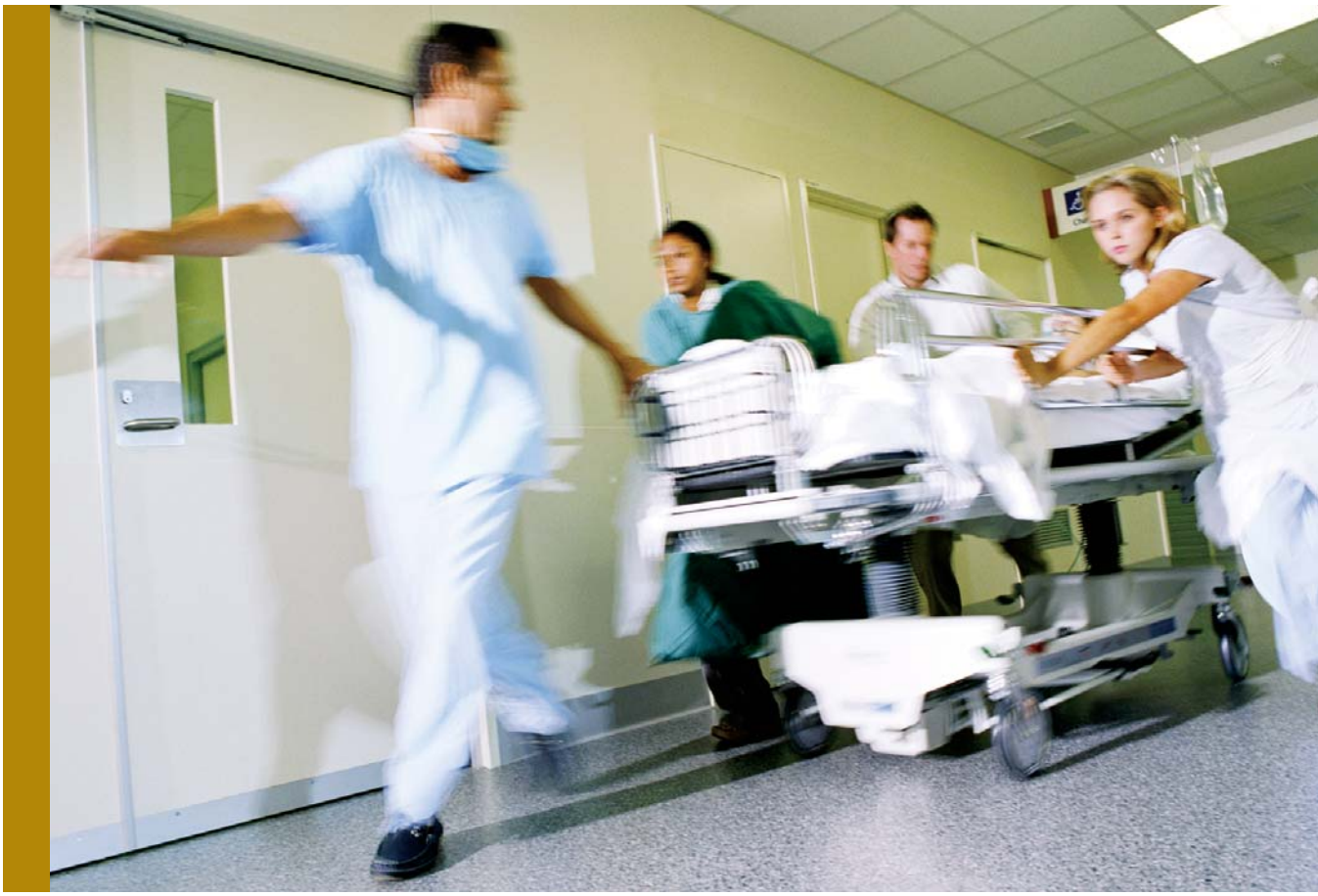
In 2004, the Foundation funded San Jose State University Foundation, as a supporting organization to San Jose State University School of Nursing, to increase the RN workforce by 90 highly skilled Bachelors of Science (BSN) level RNs working in the San Francisco Bay Area. To achieve this outcome, the grantee was required to design and implement an 18-month honors BSN program whereby local partnering hospitals provide students forgivable loans in exchange for employment upon graduation and licensure attainment. The Foundation's grant funds program design, faculty salaries, classroom space, equipment, recruitment efforts, and evaluation activities. The first cohort of three has completed the Program and graduates are in the process of earning licensure as RNs.

University of California, San Francisco

In 2004, the Foundation funded the University of California, San Francisco (UCSF) School of Nursing to increase RN education capacity through acceleration and expansion of nurse faculty training. Limited access to qualified faculty is a major bottleneck to meeting the demand for nurses at the bedside. By providing the UCSF School of Nursing a grant to design and implement a three-year accelerated doctoral program, the Bay Area schools of nursing will have access to 42 additional doctoral-prepared nursing faculty. The first cohort of 10 Betty Irene Moore Doctoral Fellows is expected to take employment in May 2007. Funds from the Foundation's grant supports faculty salaries, recruitment efforts, and evaluation activities. In addition, the grant provides 42 Betty Irene Moore Doctoral Fellows direct support during their three years of study in exchange for a three-year commitment to teach full-time in the Bay Area.

Foundation for California Community Colleges

In 2004, to increase efficiencies in the education system and expand education capacity, the Foundation funded the Foundation for California Community Colleges, in partnership with the California Institute for Nursing & Health Care, to develop and implement the Centralized Clinical Placement System (CCPS). Prior to the launch of the CCPS, available



clinical placement slots at hospitals were often left unused as schools had little visibility into available opportunities. The Bay Area nursing school and hospital community identified a need for a centralized system to increase the transparency of available placements and the efficiency of matching students with placements, and the CCPS was designed by an operating committee of Bay Area schools and hospitals. The grant provided technical resources needed to design, build, and implement the system and resources to train Bay Area hospitals and nursing schools on the system and to facilitate the utilization of unused clinical placements. The CCPS is now a fully functional web-based system, which allows nursing school deans and directors to view all clinical placement opportunities, facilitates standardized clinical placement requests made to hospitals, and coordinates the assignment of students to the appropriate clinical placement experience. All nursing schools operating within the five-county Bay Area utilize the CCPS.

Effective Practices

Strategy: Implement more effective hospital practices

The Institute of Medicine estimates that up to 98,000 Americans die each year in hospitals due to medical errors. While RNs play a critical role in the delivery of health care, patient safety and highly effective care involves a combination of disciplines, roles,

and functions. It is through partnerships with hospitals, hospital systems, schools, and other healthcare nongovernmental organizations and associations that BIMNI is funding efforts to implement best practices in nursing; develop and implement system-wide quality improvement and patient safety programs; and identify and disseminate improved discharge planning for high-risk elder patients. See grant example below.

Hospital Council of Northern and Central California

In 2005, the Foundation funded the Hospital Council of Northern and Central California, in partnership with Convergence Health Consulting, to launch the Bay Area Patient Safety Collaborative, a peer-to-peer learning community. The Collaborative (later renamed, Beacon, the Bay Area Patient Safety Collaborative) was formed to support and accelerate the implementation of six scientifically-based interventions associated with the Institute for Healthcare Improvement's Saving 100,000 Lives Campaign in the San Francisco Bay Area. Campaign interventions, which address leading sources of mortality and complications within acute care hospitals, include:

- Rapid Response Teams to respond at the first signs of patient distress
- Medication reconciliation to reduce medication errors
- Improved care for heart attacks
- Prevention of surgical site infection
- Prevention of ventilator-acquired pneumonia
- Prevention of central-line-associated bloodstream infection

Currently, 33 hospitals located in the five-county Bay Area participate in Beacon and meet regularly to share best practices for continuously improving care, to access training on the science and tools of quality improvement, and to share successful models for improving care processes. Recent successes of hospitals participating in the Collaborative include zero central-line bloodstream infections for two quarters by two-thirds of hospitals reporting data, zero ventilator-associated pneumonia cases for one quarter by these hospitals, and an estimated more than 500 lives saved during the 100,000 Lives Campaign. With the Beacon Collaborative structure in place, Bay Area hospitals are poised for further improvement through knowledge sharing of implementation strategies and best practice models.

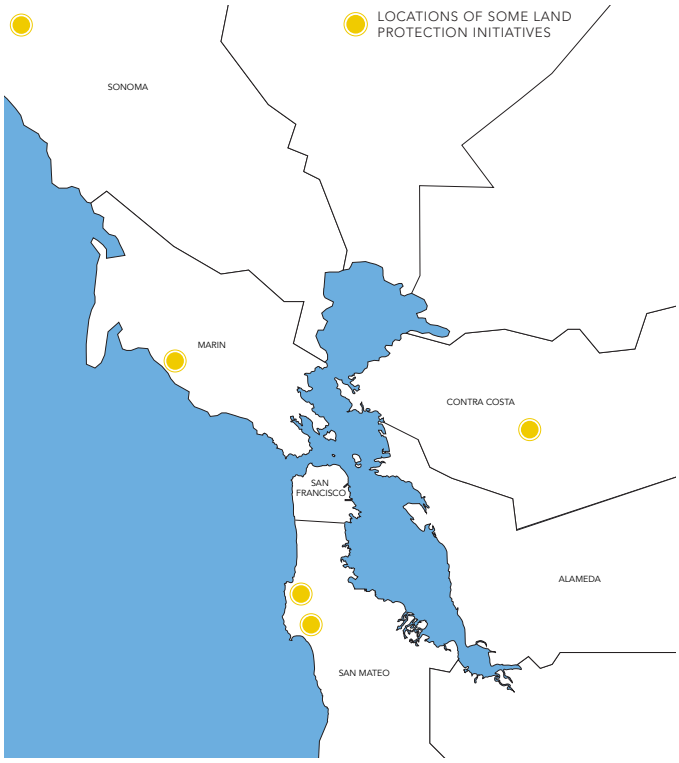
SAN FRANCISCO BAY AREA PROGRAM

LAND PROTECTION

The Foundation seeks to protect the Bay Area's unique and irreplaceable lands for future generations. Following a long tradition of protecting open space, beginning with citizen-led efforts in the 1930s to establish Mt. Tamalpais State Park, a diverse range of individuals and organizations have worked together to protect remarkable places that have become world-class icons. From Mount Diablo to Point Reyes, as well as small creeks and shady redwood groves, communities have supported educated choices to balance human and environmental needs resulting in the natural beauty of the Bay Area that continues to thrive in the midst of a major metropolitan area.

The Foundation builds on this tradition of land protection with the vision of safeguarding the area's quality of life and remarkable biodiversity. This includes protecting rare or endangered habitats, plants, and animals, which results in land use that supports healthy, sustainable human communities.

The Foundation makes grants for land acquisition and conservation easements.



A number of important criteria are considered in determining which areas to protect. These include:

- Value and importance of the land to the local and regional environment
- Community support
- Plans for appropriate long-term stewardship
- Need for private dollars to fill public funding gaps for land protection and whether opportunities exist to leverage additional funding
- Opportunity to catalyze Bay Area land protection organizations to grow strategically, either in the scale of their efforts or ability to significantly deepen local support

To date, the Foundation has awarded more than $90 million in land protection grants that helped to protect over 25,000 at-risk acres, an area nearly the size of the city and county of San Francisco.

Highlights of progress made in protecting Bay Area lands to date include:

Land Trust of Napa County

The Land Trust of Napa County used a May 2006 grant for $5 million to help purchase and permanently protect 3,045 acres of the Wildlake Ranch, a unique and irreplaceable property located in the Howell Mountain area at the northern end of Napa Valley. This property was chosen because it has high conservation values, especially a richness of biodiversity needing protection. The property is also strategically located adjacent to Robert Louis Stevenson State Park and other nearby state lands. The grant also helped the organization to significantly increase community involvement in land protection, including completion of a $20 million campaign to raise the additional funds needed to protect the property. Finally, the campaign to protect the Wildlake property helped draw attention to the need for open space protection in Napa County and galvanized the community to support passage recently of legislation to create Napa County's first Parks and Open Space District, which will serve as a county agency protecting open space.

$90 Million

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Save-the-Redwoods League

The Save-the-Redwoods League used a December 2005 grant for $1 million to purchase and provide stewardship of 80 acres of forest adjacent to Portola Redwoods State Park forestlands in the Santa Cruz Mountains. This parcel was protected in order to preserve old-growth redwoods on the property and to protect the watershed of the downstream Peters Creek grove of ancient redwoods in Portola Redwoods State Park, one of the most significant stands of ancient redwoods in the region. This grant also protects the upper reaches of the Pescadero Creek watershed to benefit coho salmon and steelhead fisheries habitat, as well as buffer the Park from residential estate development on its boundaries. Additionally, this grant created restoration and recreation opportunities in the Park. Ultimately, the 80-acre parcel will become part of Portola Redwoods State Park.

The Regional Parks Foundation

The Regional Parks Foundation used a November 2004 grant for $1.5 million to fund 50% of the East Bay Regional Parks District's purchase and protection of 617 acres of grassland

habitat in southeastern Contra Costa County. This parcel was targeted for acquisition in order to protect a critical link in the wildlife corridor stretching from the Altamont Pass to Mount Diablo and to provide improved resource management for a wide variety of wildlife, including the Western burrowing owl. Protection of the land also reduces the adverse effect of wind turbines close to existing parkland, and creates a permanent buffer for one of the most important Native American cultural resource sites in the East Bay. The parcel now enjoys permanent protection under the jurisdiction of the East Bay Regional Park District.

Sonoma Land Trust

A grant for $7.9 million to Sonoma Land Trust in September of 2004 helped permanently protect 2,329 acres of what was, at the time, the most threatened wetlands and related upland habitats in the North Bay. With funding from the Foundation, the Sonoma Land Trust has also successfully completed an extensive restoration planning process with the community, which will restore tidal marsh and an ecologically viable ecosystem capable of providing habitat for threatened species, migratory shorebirds, and waterfowl. By funding a portion of the acquisition and restoration planning, the Foundation has catalyzed the public agencies and Sonoma County residents to come together to continue to raise additional funds and move this project forward.

Peninsula Open Space Trust

A $50 million grant in July 2001 to the Peninsula Open Space Trust (POST) helped the organization to rally the Bay Area community around POST's "Saving the Endangered Coast" Campaign that ultimately raised $200 million. The Campaign's focus has been to preserve 20,000 acres of coastal San Mateo County open space. The Foundation's contribution supported the purchase of the fee title or conservation easement to a variety of parcels, while a small portion of the grant supported planning and implementing stewardship activities on the newly acquired lands. The Campaign has been led by POST and supported by individuals, private foundations and public agencies. The majority of parcels protected will ultimately become public lands protected within county, state or national parks.

SAN FRANCISCO BAY AREA PROGRAM

SCIENCE AND TECHNOLOGY MUSEUMS

The Foundation awards grants to Bay Area science and technology museums to support innovative programs and exhibits that will increase scientific awareness and literacy among educators, students, and the public. A key component of these grants includes the ability to measure the impact of these programs and exhibits.

To date, the Foundation has awarded more than $28 million to six Bay Area science and technology museums, several with multiple grants. Together, these museums attract 2.9 million visitors annually. Grants range from one to four years in duration, with the typical grant spanning three years. Current grant awards vary from approximately $500,000 to $2 million in size.

Highlights of the Foundation's support to science and technology museum programs and exhibits include:

Chabot Space & Science Center

The Foundation funded Chabot Space & Science Center's Techbridge program with a three-year, $2.1 million grant in 2004. Techbridge is a high-touch after-school and summer program designed to promote science, technology, mathematics, and engineering among young women in the Bay Area. Program participants benefit from hands-on projects, mentoring from female scientists and engineers, as well as worksite visits, internships, teacher training, and specialized curricula. Originally funded by the National Science Foundation, Techbridge has directly served more than 1,500 girls in primarily underserved and underrepresented communities and impacted over 3,000 educators and professionals, 4,000 family members and 500 role models since its founding in 2000.

Since 2004, the Foundation's grant has enabled Techbridge to enhance its program services, increase the number of Bay Area girls served annually by 40%, and extend depth of contact through selective additions of pipeline schools at the elementary and high school levels. In addition, this grant has enabled Techbridge to bring its program to national partners, extending the program's impact and helping to launch a successful sister program in Baltimore, Maryland. Quantitative and qualitative evaluations demonstrate positive results, with over 90% of the first three graduating classes pursuing technology, science or engineering in college.

Currently, women constitute only 10% of the engineering workforce and their university enrollment in computer science is dropping. Women are desperately needed in the areas

of technology, science, and engineering in both business and academia. Techbridge tackles the problem at its roots by targeting young women to increase their technical competence, confidence, and interest in these fields for future careers.

Tech Museum of Innovation

In 2004, the Foundation awarded the Tech Museum of Innovation a three-year, $1 million grant to design and develop a permanent exhibit showcasing technologies that support environmental conservation—a topic of leading concern for many Bay Area residents. Green by Design, a 4,500-square-foot immersive environment, opened in September 2006 and provides visitors with the opportunity to interact with a range of technologies that promote a sustainable living experience. The exhibit utilizes interactive media and real-world technology that can be updated to reflect the most current environmental conservation technologies available. The Foundation's grant provided nearly half of the funding for this innovative exhibit, serving as the lead anchor to attract additional funding.

Exploratorium

The Exploratorium recently received a $600,000, three-year grant to help fund an innovative "immersive" geometric exhibit and educational curriculum geared to increase mathematics and spatial reasoning skills in Bay Area children. This grant, which represents approximately 20% of total project costs, leverages a sizable grant from the National Science Foundation and strategically extends the reach of educational programming by 200% to impact over 16,000 Bay Area children through guided educational interactions with the exhibit. The grant also underwrites the evaluation costs of assessing whether this "immersive" program demonstrates advantages over traditional programs in deepening children's understanding of mathematics and spatial reasoning.

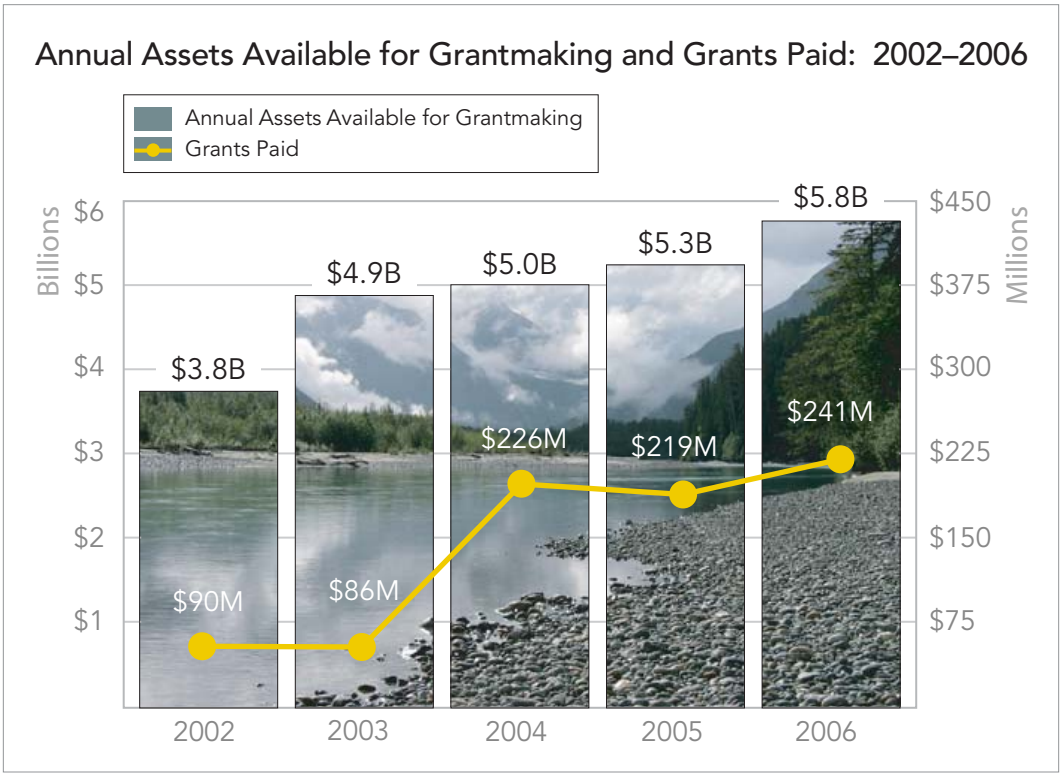
FINANCIAL HIGHLIGHTS

FINANCIAL HIGHLIGHTS 2006

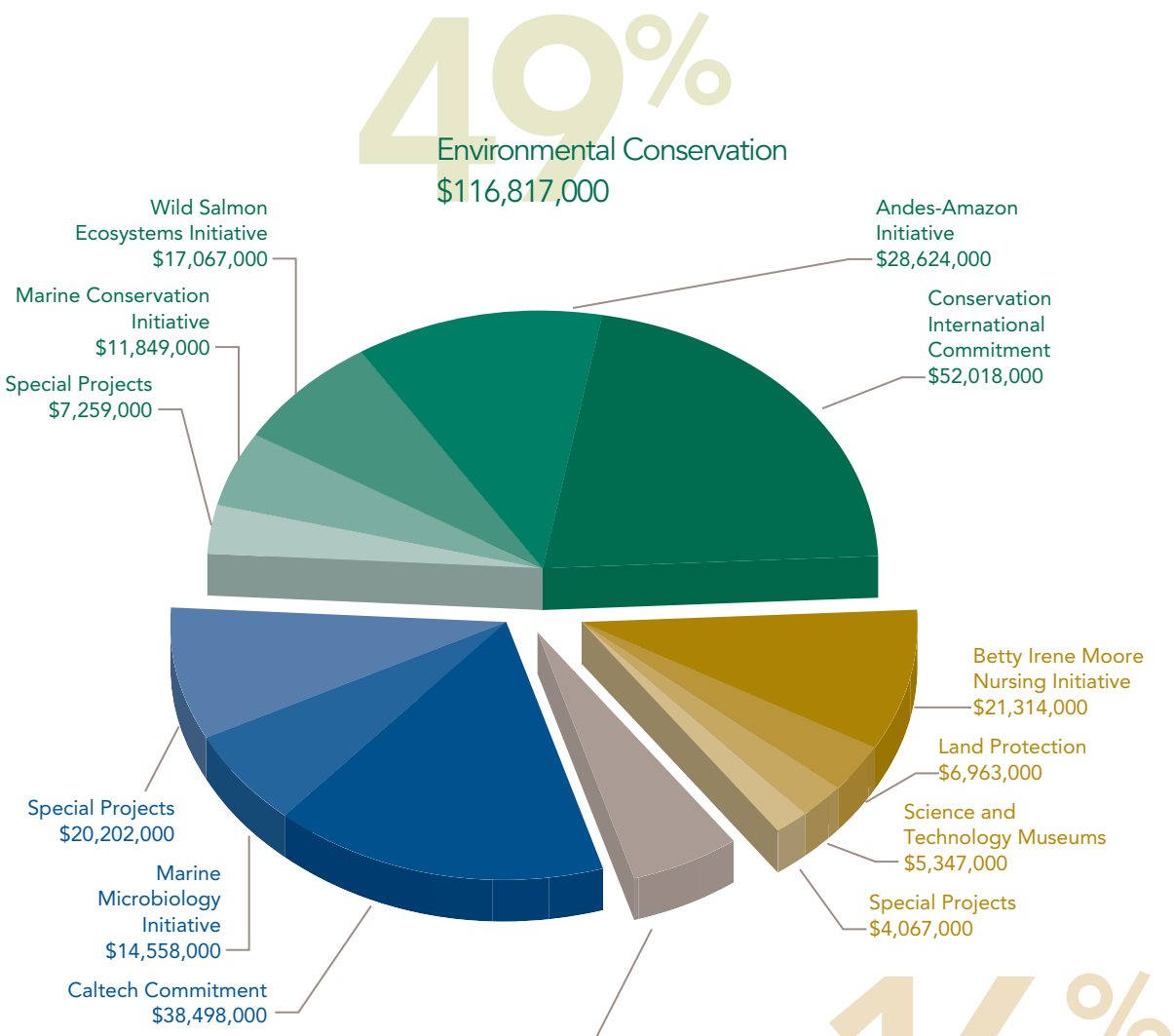
The Gordon and Betty Moore Foundation's total assets available for grantmaking, consisting primarily of investments grew in fiscal 2006 from $5.3 billion to $5.8 billion. The Foundation's investment objective is to protect the purchasing power of the endowment in perpetuity. As such, the investment portfolio is a collection of diversified assets designed to deliver relatively stable returns in a variety of market conditions.

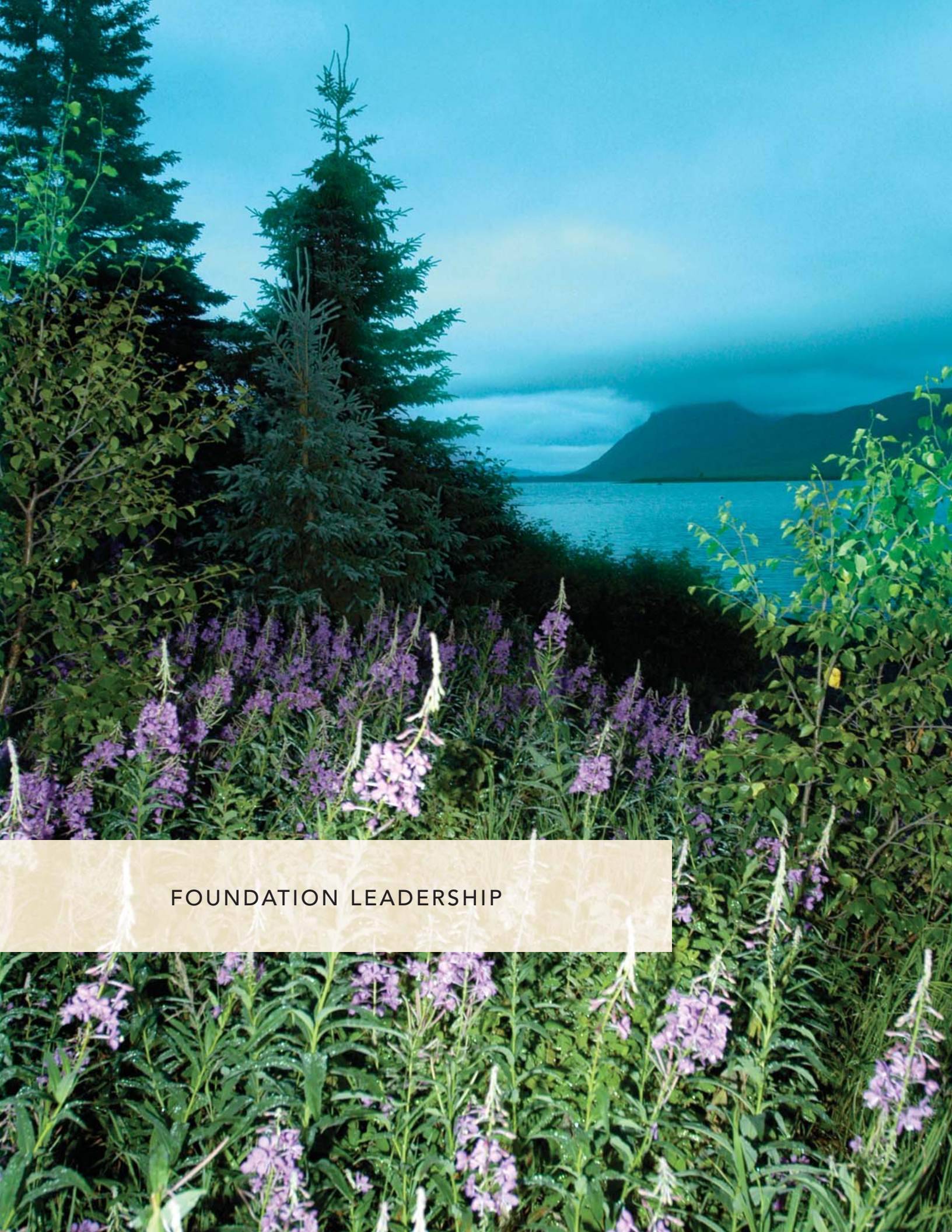
In 2006 the Foundation awarded grants totaling $247 million and paid grants totaling $241 million, bringing total grants awarded and paid since inception to $1.3 billion and $904 million, respectively.

The Foundation's financial statements are audited annually by Ernst & Young, LLP and published on our website at www.moore.org. Additional information is also available on the website in our annual information return called the Form 990-PF, Return of Private Foundation.



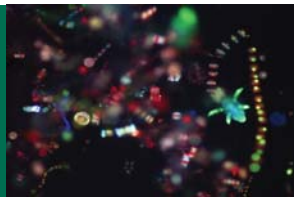
$241 Million in Grants Paid in 2006





FOUNDATION LEADERSHIP

ABOUT OUR FOUNDERS



Gordon and Betty Moore

A rule-of-thumb prediction made by Gordon Moore in 1965, later dubbed "Moore's Law," became a guiding principle for the delivery of ever more powerful semiconductor chips at proportionally lower costs. Today, this standard continues to set the pace of technology development and progress. Gordon has been committed to technological progress throughout his career asa leader in the new semiconductor industry, first as co-founder of FairchildSemiconductor in 1957 and then as co-founder of Intel Corporation, creatorof the world's first microprocessor, in 1968.

Betty met Gordon at San Jose State College where she received her bachelor's degree in Journalism in 1949. Gordon and Betty were married the following year. While Gordon attended graduate school at the California Institute of Technology in Pasadena, Betty worked for Consolidated Engineering Corporation in advertising and public relations before joining the Ford Foundation.

By establishing the Gordon and Betty Moore Foundation together in 2000, the Moore's philanthropic contributions build on the work they have dedicated to science and the environment for decades, both at home and abroad. Today, Gordon and Betty are active on several philanthropic and corporate boards. They reside in the Bay Area and in Hawaii, and have two sons and four grandchildren.

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