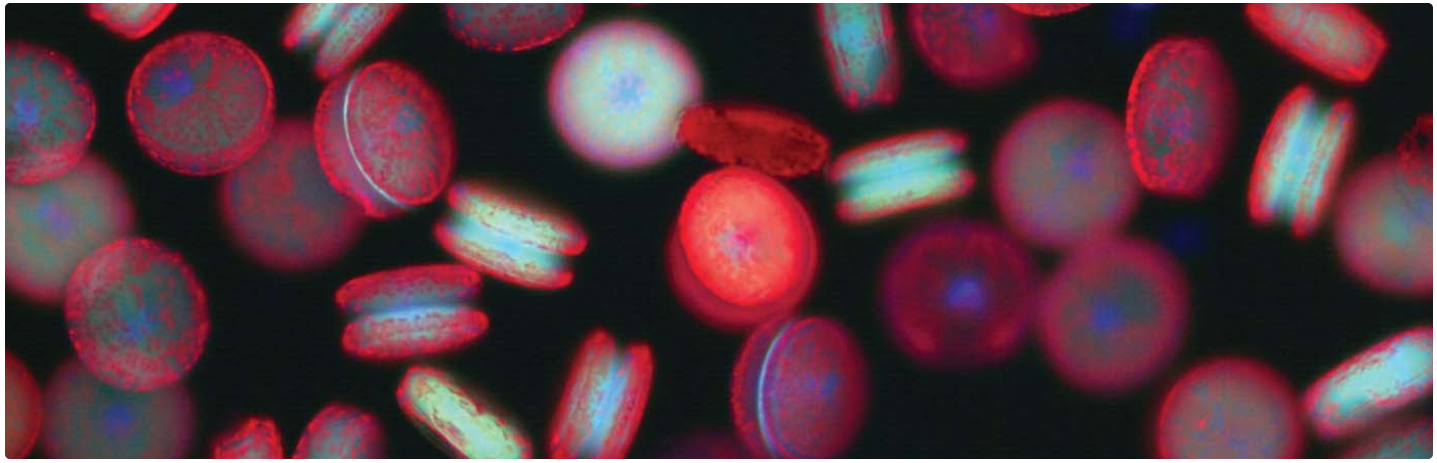
GORDON AND BETTY MOORE FOUNDATION

2007 YEAR IN REVIEW



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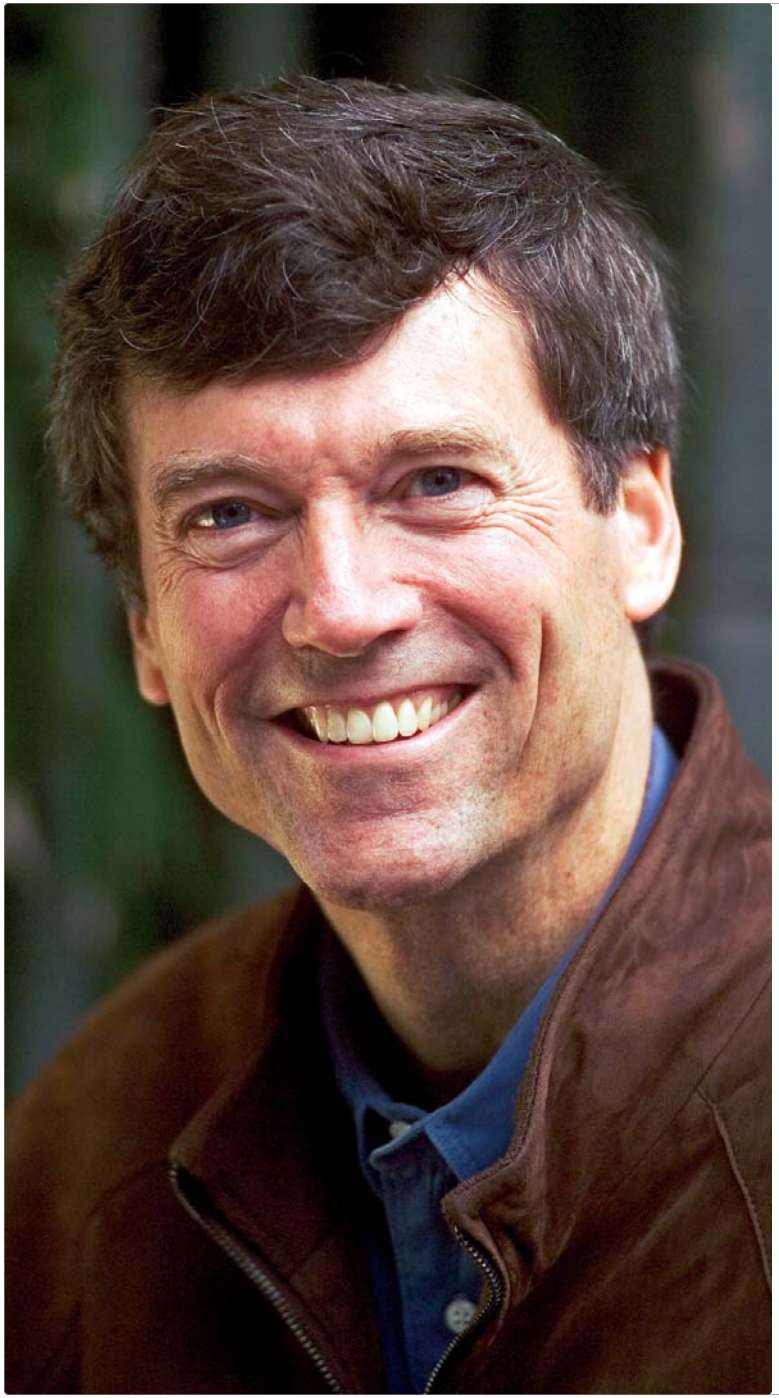


Dear Colleagues,

I am pleased to present the 2007 Gordon and Betty Moore Foundation *Year in Review.* The report captures the Foundation's financial highlights and reflects the achievements of our grantees in our Environmental Conservation, Science and San Francisco Bay Area programs. We congratulate all of our grantees on their accomplishments in 2007.

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

Best regards,

Steven J. McCormick
President, Gordon and Betty Moore Foundation

FOUNDATION OVERVIEW

GORDON AND BETTY MOORE FOUNDATION

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

Environmental Conservation

Science

San Francisco Bay Area

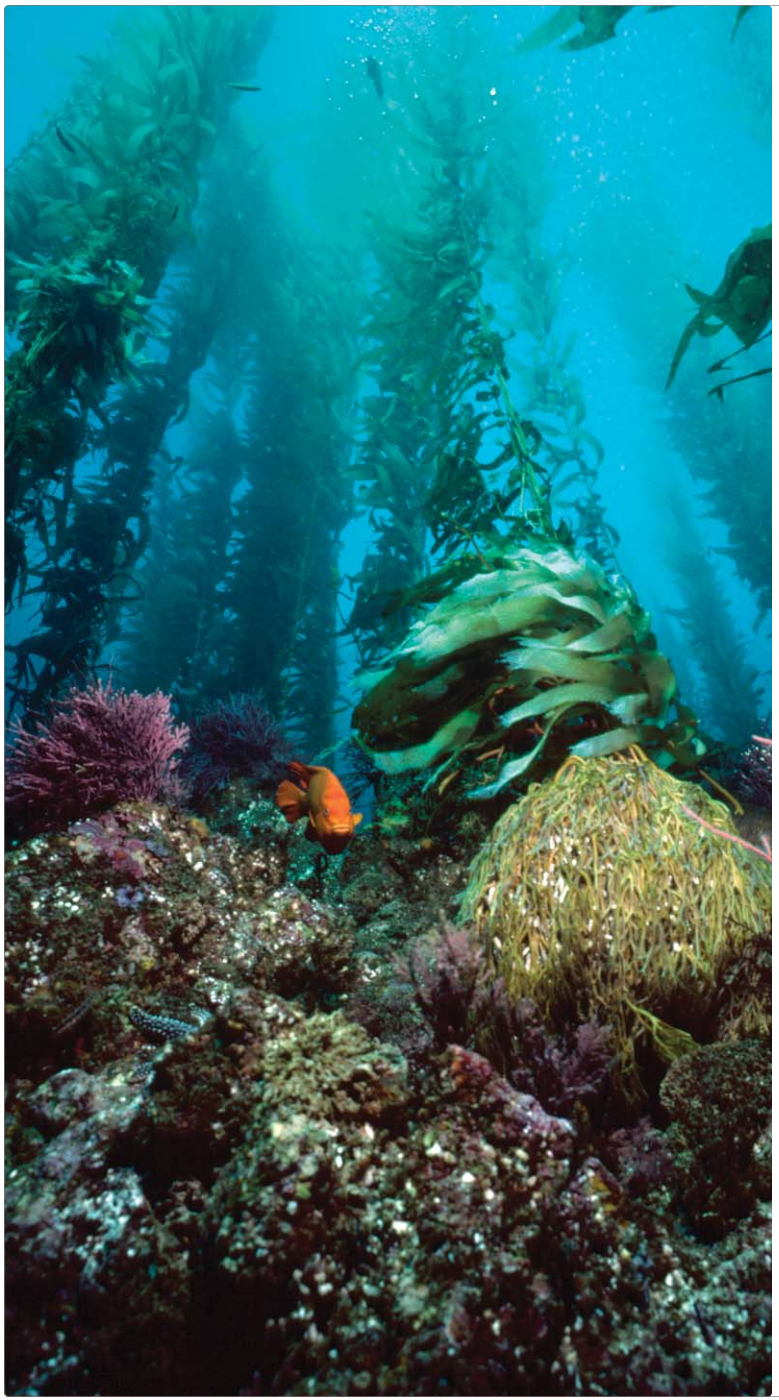
Foundation Vision/Mission

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

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. Each initiative is grounded in a specific theory of change (a rationale for why strategies and activities are selected and a detailed explanation of how they



will produce positive transformations), which informs our grantmaking and mobilizes grantees and stakeholders to achieve shared goals. The Foundation also funds some major commitments, which are the sum of many inter-related activities that exist under one large long-term grant.

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 and 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.

In addition, the Foundation applies four "filters," or criteria, to develop initiatives and to evaluate potential grants, which ask if a project:

- is important,
- makes a difference and has enduring impact,
- has measurable outcomes, and
- contributes to portfolio effect.

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.

For a program overview and a list of grants awarded, please see www.moore.org/environment.

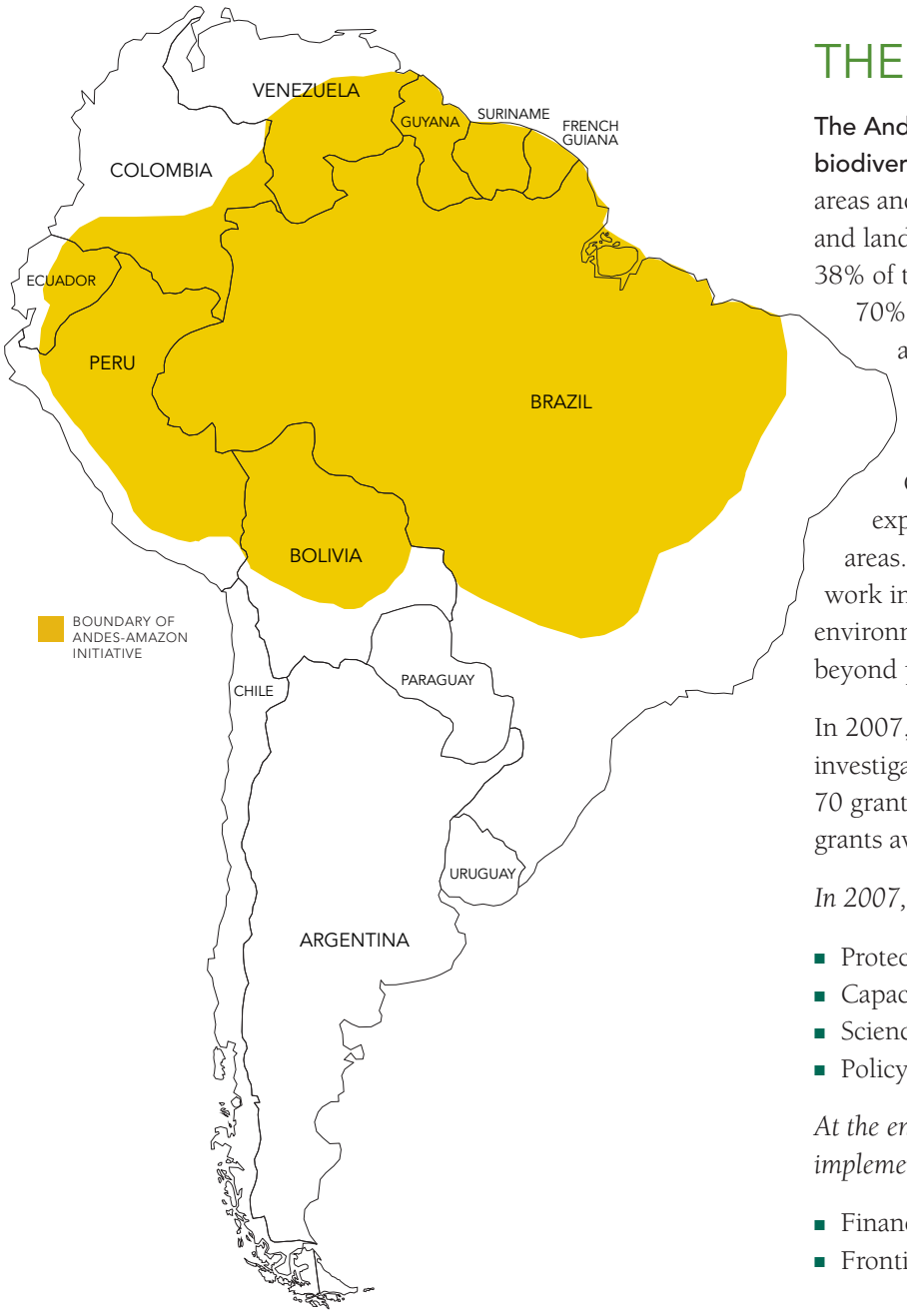
ENVIRONMENTAL CONSERVATION

ANDES-AMAZON INITIATIVE

MARINE CONSERVATION INITIATIVE

WILD SALMON ECOSYSTEMS INITIATIVE

CONSERVATION INTERNATIONAL COMMITMENT



THE ANDES-AMAZON INITIATIVE

The Andes-Amazon Initiative seeks 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 core of the AAI. Creation depends on the valuation of such areas by governments and civil society, and on expert identification of ecologically, socially and politically appropriate locations for these areas. While protected area creation and effective management are critical to the Initiative's work in the region, the durability and integrity of those protected areas depend on the effective environmental governance and sociopolitical support. For this reason, the AAI strategies extend beyond protected area creation and management to complementary and cross-cutting themes.

In 2007, AAI awarded 17 new grants for a total of $33 million in new funding. Since AAI's investigation phase in 2001 and the subsequent official launch of the Initiative in 2003, 70 grants have been funded in all, totaling more than $160 million through 2007. For a list of grants awarded, go to **www.moore.org/aai-grants.**

In 2007, the Initiative team implemented the following strategies:

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

At the end of 2007, the Initiative added two new strategies, which the team will begin implementing in 2008. These include:

- Financing for Sustainability
- Frontier Consolidation

*A hectare is 2.471 acres

Strategy: Protected Area Creation/Effective Management

Protected areas (PAs) are created by federal, state and local governments. The general concept includes several different categories of PAs: strict protection areas such as national parks and ecological reserves, which are established primarily for biodiversity protection; managed use areas such as extractive reserves or managed forests that limit resource extraction and other conservation-compatible uses; and indigenous reserves, which protect the cultural, social and conservation interests of indigenous peoples. In 2007, Foundation grantees have helped create nearly 3 million hectares of newly protected areas in the region.

Approximately 250 million hectares were already under protected area designation prior to the Initiative's inception. While protected area creation represents a critical first step towards effective land protection and management, the Initiative also seeks to improve the management effectiveness of new and existing PAs to ensure that the intended conservation benefits are achieved and maintained over time. In 2007, the Initiative's grantees have advanced the effective management of more than 30 million hectares.

Highlights of grantee accomplishments in 2007:

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. The project has been supported by the Foundation and other donors. Jointly, the ARPA program, WWF's Amazon Headwaters Initiative, Environmental Defense, and Sociedad Peruana de Derecho Ambiental together in 2007 created new PAs totaling nearly 1.5 million hectares in the Brazilian Amazon and 1.2 million hectares in the Columbian and Peruvian Andes.

Also in 2007, the grantees listed above, as well as The Nature Conservancy, Wildlife Conservation Society, and Fundação Vitória Amazônica, succeeded in securing effective management of PAs stretching across eight million hectares, with significant progress towards basic effective management of another 25 million hectares.

In 2007, AAI awarded 17 new grants for a total of **$33 million** in new funding.

Strategy: Capacity Building

The number, staffing level and geographic distribution of locally-based nongovernmental organizations and in-country academic programs in the Andes-Amazon are currently not sufficient to satisfy the management needs of existing and planned protected areas. Capacity building investments help reverse this situation through short- and long-term, in-country training and education on key environmental topics directed at students, NGO project managers and government staff. Designed to create a critical mass of highly trained local professionals vital to the success of the Initiative, this strategy also encompasses support for longer-range, in- and out-country education at the undergraduate and postgraduate levels. AAI grantees have also received support in the form of equipment, technology and training.

Highlights of grantee accomplishments in 2007:

Scholarships for Undergraduate and Graduate Academic Programs

Grants to EFN, the University of Florida, Instituto Internacional de Educação do Brasil, and Yale University have supported 101 new scholarships for undergraduate and graduate academic programs, the placement of one post-doctorate scholar at a regional university, the exchange of 12 faculty between regional universities and the University of Florida, a workshop on interdisciplinary graduate conservation education in Brazil, two professional development fellowships, the training of 55 individuals in professional courses, and 17 small grants for professional development.

Universidad de los Andes

In May 2006, the Foundation awarded a three-year grant to the University of the Andes to design and implement a Masters Program in Conservation Management and Policy—the first such program at a major university in the region—and to provide scholarships to individuals from the Andes-Amazon. The curriculum design was completed in 2007. The program will increase access to training and education for local candidates who must otherwise depend on elusive international scholarships to train outside the region.

Additional funding for WWF/EFN resulted in the training of 197 PA managers and park guards in 2007, and a three-year grant to the Organization for Tropical Studies resulted in the delivery in 2007 of the first field course for 20 participants in a “training of trainers” program for PA managers and decision-makers.

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. Drawing on the best available science, AAI conservation targets are identified, refined, prioritized and adaptively managed. This cross-cutting strategy also provides critical scientific information to support conservation-appropriate policy measures.

Through Foundation support, a range of scientific tools can now 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 effective management of protected areas.

Highlights of grantee accomplishments in 2007:

Carnegie Institution of Washington

In April 2007, the Foundation provided the Carnegie Institution of Washington with a one-year grant to study baseline forest conditions, selective logging, outright deforestation and other ecosystem disturbances in Peru through the development and transfer of satellite monitoring technology to Peruvian agencies. Transforming the Carnegie Landsat Analysis System (CLAS) software from a format which required a super-computer to one adapted for PCs enabled systematic monitoring, mapping and reporting on these forest condition variables. Science published the resulting study by Greg Asner, "Land-Use Allocation Protects the Peruvian Amazon," in August 2007. In the coming year, Peruvian government officials and NGO staff will receive training on the software for even wider application of the tool, helping to promote and ensure continued, replicable and transparent methods for monitoring of forests in the region.

The AAI Policy and Economics strategy supports the establishment of sustainable forest-based economies, essential for conservation success in the Amazon.

Strategy: Policy and Economics

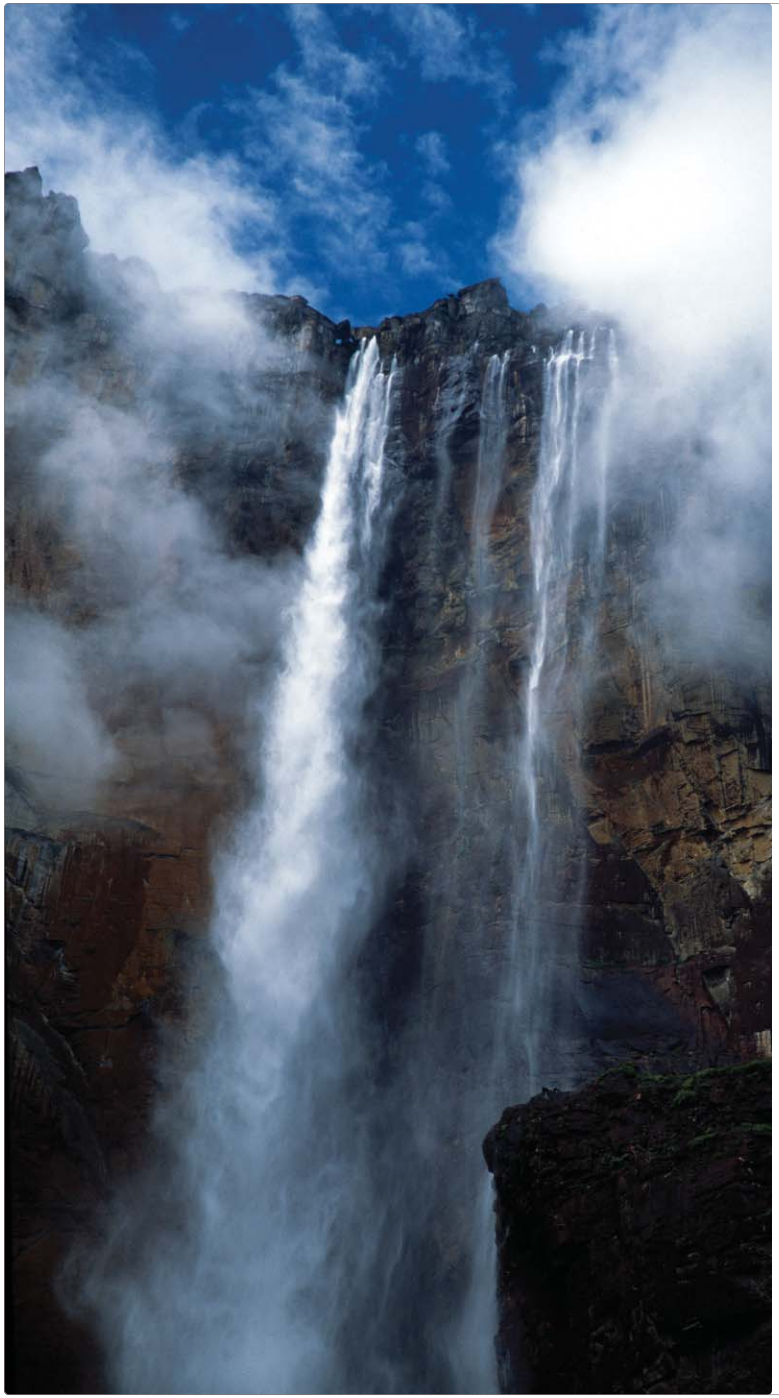
The AAI Policy and Economics strategy complements the Initiative's Science and Capacity Building Strategies, by working to strengthen the legal framework for conservation. This objective is achieved through support of those NGOs that work with governments to establish and implement conservation-appropriate policies based on sound science and through provision of information to donors, land owners and industry to help them develop and adopt best practices.

The strategy also supports the establishment of sustainable forest-based economies, essential for conservation success in the Amazon. To accomplish this, the Initiative supports alternative economic systems that mitigate the impacts of more directly consumptive economic systems. Economic development in the region has been strongly correlated with infrastructure development. Preventing such development would be neither desirable nor possible, but alleviating its environmental impacts is critical. The AAI works with grantees such as the Conservation Strategy Fund and the Bank Information Center to analyze the economic costs and benefits of potential infrastructure development projects and to provide the findings to decision makers to help them identify the most beneficial projects for both socioeconomic and conservation objectives.

Highlights of grantee accomplishments in 2007:

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 conducted economic analyses of Brazilian Amazon PAs in collaboration with ARPA and an analysis of the regional economic impact of Madidi National Park in Bolivia. CSF has built on this past work through a follow-up grant that supports efforts to formulate 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 Brazil, Peru and Bolivia. This work is integrated with the broader $65 million effort supported by USAID.



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

The Bank Information Center (BIC) has worked with AAI funding to develop an information infrastructure and exchange—The Integration of Regional Infrastructure in South America (IIRSA)—a major economic integration initiative in South America. The plan highlights a series of major infrastructure projects planned for the region that could have massive negative impacts on habitat and biodiversity. The BIC system 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.

In 2007, funding for CSF and for the Bank Information Center resulted in the completion, publication and dissemination of policy reports on the Madeira River Infrastructure and the Corredor Norte Road Projects.

Strategy: Finance for Sustainability

Finance for sustainability is one of AAI's newer strategies. This approach derives from an understanding that the long-term viability of a conservation initiative depends on the ability to ensure ongoing, sufficient financial support for programs, activities, staff and infrastructure. By developing long-term financing mechanisms to sustain the protected area systems' recurring costs, AAI seeks to sustain effective conservation in the region.

Strategy: Frontier Consolidation

The opening of major roads into or across the Amazon is of particular concern for the maintenance of canopy cover. Without careful land-use planning for the surrounding areas, road expansion invites uncontrolled colonization, a well-documented process that has historically resulted in rapid deforestation spreading out in all directions from the road. The frontier consolidation strategy will target three strategic geographies surrounding the Transoceanic Highway/MAP region, BR-319 and BR-163—all roads scheduled for paving completion in the next few years—where it can help secure a consolidated mosaic of appropriate land use types to maintain forest cover and biodiversity without impeding rational and necessary socioeconomic development. In these target geographies the Initiative plans to increase the level of effective management and intensify application of the other cross-cutting strategies (i.e., PA creation and effective management, capacity building, science, policy and economics, and financing for sustainability).

MARINE CONSERVATION INITIATIVE

Healthy marine ecosystems are essential to support biodiversity and provide the ecosystem services on which humans depend. Despite the importance of resilient and productive marine ecosystems, human uses are increasingly altering ecosystem structure and function and pushing them towards collapse. The Marine Conservation Initiative (MCI) seeks to create and maintain resilient and productive marine ecosystems in three geographies in North America—British Columbia, the California Current, and New England—through implementing Area-Based Management (ABM) and Reforming Fisheries Management (RFM) 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. By first demonstrating the effectiveness of ABM and RFM in these three places, the MCI will stimulate policy change to ensure durability and extend the benefits of transformed management throughout North America.

From 2005 through 2007 the Initiative awarded 44 grants totaling $38.4 million in support of its programmatic objectives. Grants typically range from 1-3 years in duration. For a list of grants awarded, go to **www.moore.org/mci-grants.**

The Initiative has identified five strategic areas for support:

Primary

- Implementing comprehensive ABM to divide the coastal marine environment spatially for a variety of compatible uses, accounting for the many ecosystem stressors
- Reforming fisheries management to align economic incentives with conservation outcomes through the promotion of Dedicated Access Privileges (DAPs), scientifically sound, total allowable catch (TAC) limits, improved monitoring, and the development of conservation-minded gear technologies

Cross-Cutting

- Executing science needed to inform policy and management
- Employing strategic communications to generate demand for better ocean management and link science to action
- Using policy reform to assure durable solutions

Implementing comprehensive ABM and RFM are the MCI's two primary strategies in each of its geographies. The three other cross-cutting strategies support ABM and RFM efforts.

Strategy: Area-Based Management (ABM)

The MCI is working to advance comprehensive ABM in its three geographies. Using an integrated, ecosystem-based approach to marine management, this process incorporates environmental, economic and social objectives in creating a science-based and multi-stakeholder management plan that achieves sustainable use. Comprehensive ABM effectively reduces conflict between competing users and promotes conservation by specifying the most appropriate uses for particular marine areas. Because the concept is relatively new, large-scale and complex, the MCI partners with the full range of ocean users, including the fishing (commercial and recreational) sector, industry, and other communities for creative and durable solutions, and applies strategic communications to educate key stakeholders about ABM. The MCI supports stakeholder inclusion in each geography, and its ABM framework ensures a balance of environmental and socio-economic objectives.

The Massachusetts Ocean Partnership

In December 2005, the Foundation awarded a grant to the Resources Legacy Fund to support the Massachusetts Ocean Partnership (MOP) in the creation of a strategic plan to advance efforts to develop and implement comprehensive ABM in the state, including the development of a science plan to fill key gaps. By mid-2007, MOP had made a substantial and critical first step forward by gaining endorsement from key stakeholders—including commercial and recreational fishing groups, the Executive Office of Environmental Affairs and the Office of Coastal Zone Management—for its Five-Year Strategic Plan for ABM in state coastal waters. In October 2007, the Massachusetts State Senate passed an act calling for the design of a single, comprehensive Area-Based Management (ABM) plan for the state's marine resources, and setting the stage for new legislation in 2008. In late 2007, the Foundation awarded a grant to the University of Massachusetts Boston, John W. McCormack Graduate School of Policy Studies, to support MOP in their work to ensure the successful development and implementation of ABM in Massachusetts, which will become a model for New England and the rest of the U.S.

The Initiative awarded

44 grants totaling

$38.4 million

in support of its programmatic objectives.

Sage Centre

The Foundation provided a two-year grant to the Sage Centre in late 2007 to manage and administer the British Columbia Marine Conservation Analysis (BCMCA), a collaborative project designed to provide scientific information about the ocean to resource managers, decision-makers, coastal communities and other stakeholders like industry. The project will synthesize available ecological, biological, oceanographic and human use spatial data in British Columbia, engaging multi-sector experts in the data collection. BCMCA relies on an iterative Marxan spatial analysis, using mathematical models to find the best balance of costs and benefits in spatial management decisions. The BCMCA will also create a biophysical and human use digital atlas and associated data repository, available online to support and inform ABM in the Pacific North Coast Integrated Management Area (PNCIMA) and beyond.

Strategy: Reforming Fisheries Management (RFM)

The MCI works to reform fisheries management by aligning economic incentives with conservation outcomes. It promotes the establishment of Dedicated Access Privileges (DAPs), and scientifically sound and ecosystem-based catch limits. It also works to develop and promote conservation-minded technological innovations, including cleaner fishing gear, spatial planning tools, and monitoring and enforcement technology.

Pacific Groundfish IFQs: Environmental Defense Fund and Natural Resources Defense Council

A 2006 grant to EDF has supported their work with the Pacific Fishery Management Council and other stakeholders to transition the management of the Pacific groundfish trawl fishery to an Individual Fishing Quota (IFQ) system. The challenges of managing a multiple species fishery have resulted in a highly regulated, inefficient fishery marked by significant discards, bycatch and extensive habitat impacts, while decades of overfishing, poor ocean climate conditions and a lack of understanding about Pacific groundfish stock productivity have led to severely reduced harvest levels. A successful IFQ program for Pacific groundfish—the largest multi-species fishery in the U.S.—will yield benefits for both conservation and fishing communities. To this end, EDF's work has facilitated Council decision-making by providing technical analyses and critical information to move the trawl sector of the groundfish fishery to an IFQ.

In 2007, the Foundation awarded a complementary grant to Natural Resources Defense Council (NRDC) to promote a new generation of bycatch accounting and minimization measures within the Pacific groundfish fishery. Without greater accountability, cleaner fishing practices, a shift to

less damaging gears and continued pressure to rebuild depleted populations, sustainable fishing will remain an elusive goal. In its work with the Pacific Fishery Management Council, NRDC advocated for strong conservation design elements in the IFQ currently under development for the trawl sector of the groundfish fishery. The trawl catch-share program will facilitate bycatch reduction and help make the groundfish fleet environmentally sustainable, while aligning conservation and business incentives.

Gulf of Maine Research Institute

The Foundation provided a grant in October 2006 to the Gulf of Maine Research Institute (GMRI) in support of a Sector Extension Program that has provided technical and scientific expertise to fishing sectors in the New England region. Responding to complex and inefficient factors that have contributed to continued fishery stock depletion in recent years, key industry organizers have been motivated to consider a new way of management, by forming "sector" Dedicated Access Privilege programs. Through the sector system, a group of fishermen can be allocated a share of the industry-wide total allowable catch (TAC) for each fish stock. In exchange they develop their own fishing rules that ensure their catch does not exceed their sector TAC. GMRI used this funding for a Sector Extension Program, implementing sector DAPs in local fisheries, and providing technical and scientific expertise to other fishing sectors in the New England region.

Strategy: Execute Science

The MCI advances science both within and beyond its focal geographies to develop the field and inform policymaking and resource management decisions within Area-Based Management (ABM) and Reforming Fisheries Management (RFM). The MCI 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 derives from ecosystems).

United Nations Educational, Scientific, and Cultural Organization

In August 2007, the Foundation awarded a grant to UNESCO to support the Intergovernmental Oceanographic Commission (IOC) in its work to develop a manual of principles and guidelines outlining the steps to implement ecosystem-based marine spatial management (ABM). By serving as a means of disseminating this information, the manual will help marine resource planners and decision-makers protect biodiversity while ensuring long-term, sustainable use of the economic potential of ocean spaces around the world.

The U.S. manages nearly

12,000 square miles of coastline and **3.4** million square nautical miles of ocean

—more than any other nation.

Strategy: Strategic Communications

The MCI uses strategic communications to target key stakeholders, including federal and regional policymakers, scientists, commercial fishermen, recreational fishermen and local communities. Within its three 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 MCI works to monitor, evaluate and disseminate key results, principles and lessons learned.

Environmental Defense

In late 2006, the Foundation awarded a grant to Environmental Defense to implement a targeted communications campaign on the findings of DAP case-studies in North America. The ensuing report, "Sustaining America's Fisheries," highlighted the value of DAP programs and gave stakeholders in New England and West Coast fisheries increased understanding of the programs and the factors necessary for their success. The report also provides practical guidance for the design of future DAP systems.

Strategy: Policy Reform

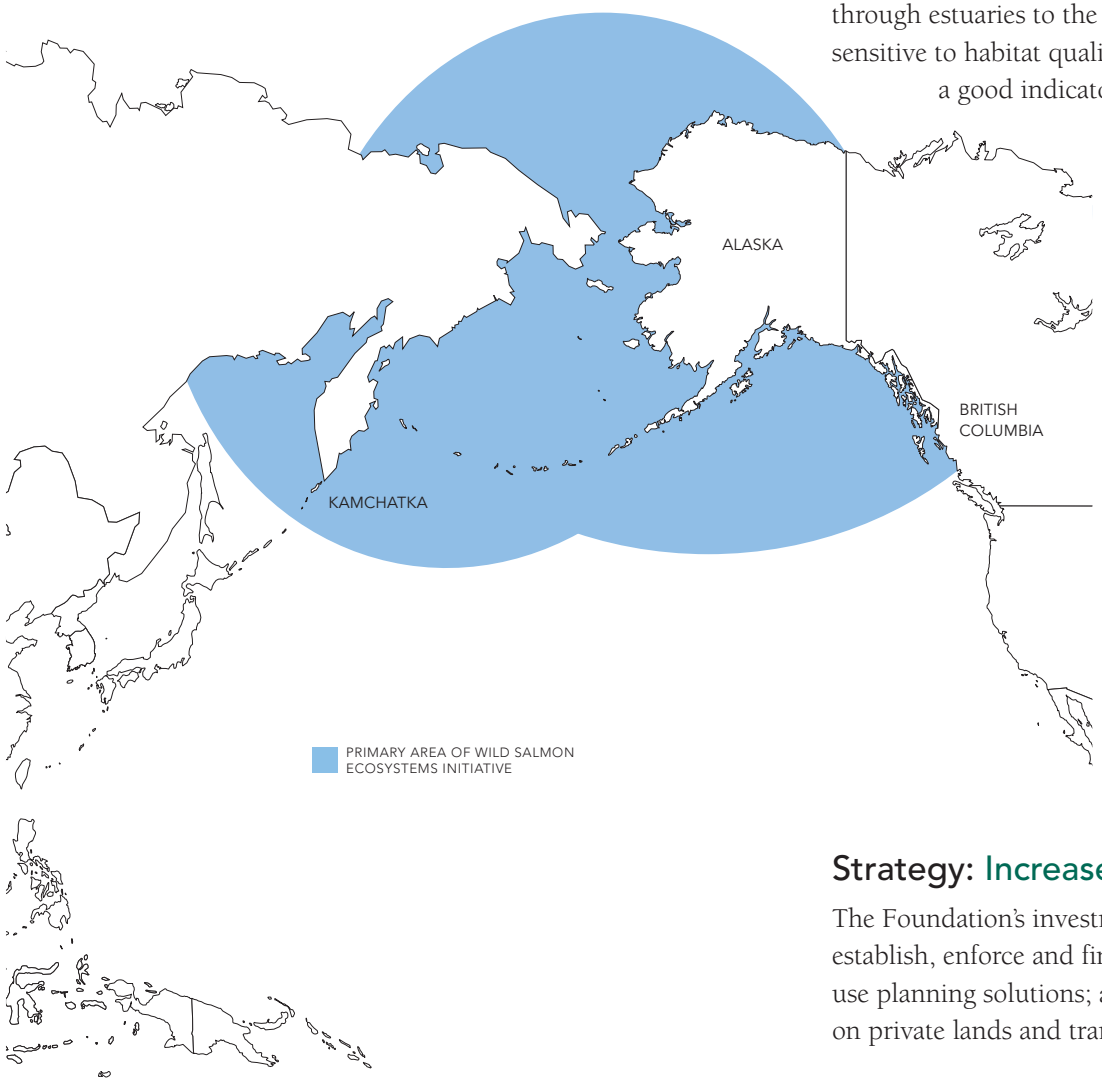
Securing durable marine conservation outcomes in MCI's three geographies requires efforts at the local and national levels to educate policymakers on necessary policy changes. The U.S. manages roughly 12,000 miles of coastline and 3.4 million square nautical miles of ocean—more than any other nation—and as any country, has exclusive rights to all resources in the water column and seabed within its territorial seas and exclusive economic zone (200 miles out to sea from the shore). In the U.S. and Canada, educational activities that provide information for developing appropriate federal enabling legislation also enhance local innovation in management. To emulate local successes at broader scales, marine conservation policy must also be promoted on regional and national stages.

In late 2006, the Foundation awarded a grant to the Ocean Conservancy to educate key-stakeholders and policy-makers about the value of ABM in Massachusetts. Working with a consortium of groups, the Ocean Conservancy developed educational materials and hosted a series of events and activities to provide information on the importance of a healthy marine ecosystem to Massachusetts. These efforts helped set the stage for the Massachusetts State Senate to unanimously pass the Oceans Act in October 2007.

In addition, as described in the grants detailed above, the work by University of Massachusetts Boston (i.e., Massachusetts Ocean Partnership) and Environmental Defense (i.e., DAPs) reflects similar efforts focused on policy reform.

WILD SALMON ECOSYSTEMS INITIATIVE

Salmon ecosystems are comprised of the interconnected land, freshwater and marine habitats used and enriched by salmon. Salmon begin their life cycle in streams and lakes, then move through estuaries to the ocean, and later return 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. Eighty-eight grants have been funded, totaling more than $100 million, since the Wild Salmon Ecosystems Initiative was formed in 2002. Grants range from 1-5 years in duration. For a list of grants awarded, go to **www.moore.org/wsei-grants.**

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

- Increasing watershed habitat protection in the North Pacific to safeguard the physical potential to produce salmon, specifically in Central and Northern British Columbia, Southeast and Southwest Alaska, and Russia's Kamchatka Peninsula.
- Ensuring the sustainability of salmon aquaculture and harvest management practices.
- Establishing an Ecosystem Based Management (EBM) framework to guide conservation and management decisions.

Strategy: Increased Watershed Habitat Protection in the North Pacific

The Foundation's investment and grant efforts have included working with governments to establish, enforce and finance salmon refuges; facilitating broad-based, multi-stakeholder land-use planning solutions; and directly ensuring conservation outcomes by purchasing easements on private lands and transferring them to existing protected areas.

Highlights of grantee accomplishments in 2007:

British Columbia: Haida Gwaii Land and Resource Management Planning (LRMP)

The Foundation's grants to the Rainforest Solutions Project/Coast Opportunity Fund, Ecotrust Canada and the Gowgaia Institute/Earthlife Canada have facilitated a formal agreement, signed in 2007, between the Provincial B.C. government and the Haida Nation to protect the 2.1 million acre coastal systems of Haida Gwaii. Through a multi-stakeholder process, the Haida Gwaii LRMP concluded with strict protection for nearly half of the habitat, and with the remaining land stewarded to preserve ecosystem function and diversity in accordance with ecosystem-based management standards.

Alaska: Habitat Protection in the Copper River Watershed

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 chinook, and for the critical habitat the delta provides for migratory birds and other species. Economically and culturally, the Copper River provides one of the best examples of the interdependence between salmon and the communities that harvest them.

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. In 2007, Ecotrust convened the regional stakeholder working group and presented draft habitat protection priorities developed during the Copper River Salmon Workshop Series. Key tribal and administrative agency representatives reached consensus on priorities for habitat protection. This agreement represents a critical step in establishing a management framework for the watershed, based on an integrated watershed planning approach that allows key stakeholders to make well-informed decisions about the future of the area's salmon resources.

Kamchatka: Protected Area Designation and Conservation Financing

The Foundation has supported salmon conservation in Kamchatka since 2001. The Wild Salmon Center (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 2007, WSC

88 grants have been funded, totaling more than **$100** million since the Wild Salmon Ecosystems Initiative was formed in 2002.

completed formal expertiza packages defining proposals for protected areas which would address five major salmon watersheds encompassing nearly five million acres of habitat for the roughly thirteen million adult salmon that return to these rivers each year. In partnership with the United Nations Development Programme (UNDP), WSC also supported the creation of a formal administrative infrastructure for enforcement of the Kol River watershed's protected area status. Additionally in 2007, WSC facilitated unprecedented co-financing and long-term monitoring agreements for the new Kamchatka refuges with the regional government and established the Russian Salmon Fund and the North Pacific Salmon Trust, institutions which will both further ensure long-term conservation financing for Kamchatka salmon conservation.

Strategy: Ensuring the Sustainability of Salmon Aquaculture and Harvest Management Practices

In addition to enhancing habitat protection, the Foundation has also invested in efforts to secure the biological productive potential of wild salmon ecosystems by reducing the risks to wild salmon abundance and diversity.

Highlights of grantee accomplishments in 2007:

Closed Containment Aquaculture

Continued work in 2007 by grantee Middle Bay Sustainable Aquaculture Institute led to the final design of a demonstration project to assess the technological and commercial feasibility of closed containment salmon farming. Because closed containment aquaculture would substantially eliminate the potential for interactions between farmed and wild salmon, it is an important possible solution to the problems posed by open net-pen aquaculture systems.

Through efforts by the Coastal Alliance for Aquaculture Reform (CAAR) and Pew Environment Group, Marine Harvest—the world's largest producer of farmed salmon—agreed in 2007 jointly to fund further research on sea lice impacts and the economic viability of closed containment salmon aquaculture. Additionally, the B.C. Government's Special Committee on Sustainable Aquaculture recommended a halt to open net-pen fish farm expansion and government-supported transition to closed containment.

Implementation of the Wild Salmon Policy (WSP) in British Columbia

The Foundation awarded Watershed Watch a three-year grant to provide provincial level leadership and analysis in the implementation of the Wild Salmon Policy (WSP) to transform salmon harvest and habitat management in B.C. This was complemented by a one-year grant to Tides Canada Foundation aimed at facilitating the move towards more sustainable salmon harvest practices associated with Skeena salmon. Grant activities quickly drew public attention to current harvest challenges and the opportunity to establish the Skeena watershed as the test case for full WSP implementation. A core component of the Tides grant was the launch of Skeena Wild Conservation Trust, an organization of First Nations, and community and conservation leaders, to provide a sustained in-region conservation voice, promoting such implementation.

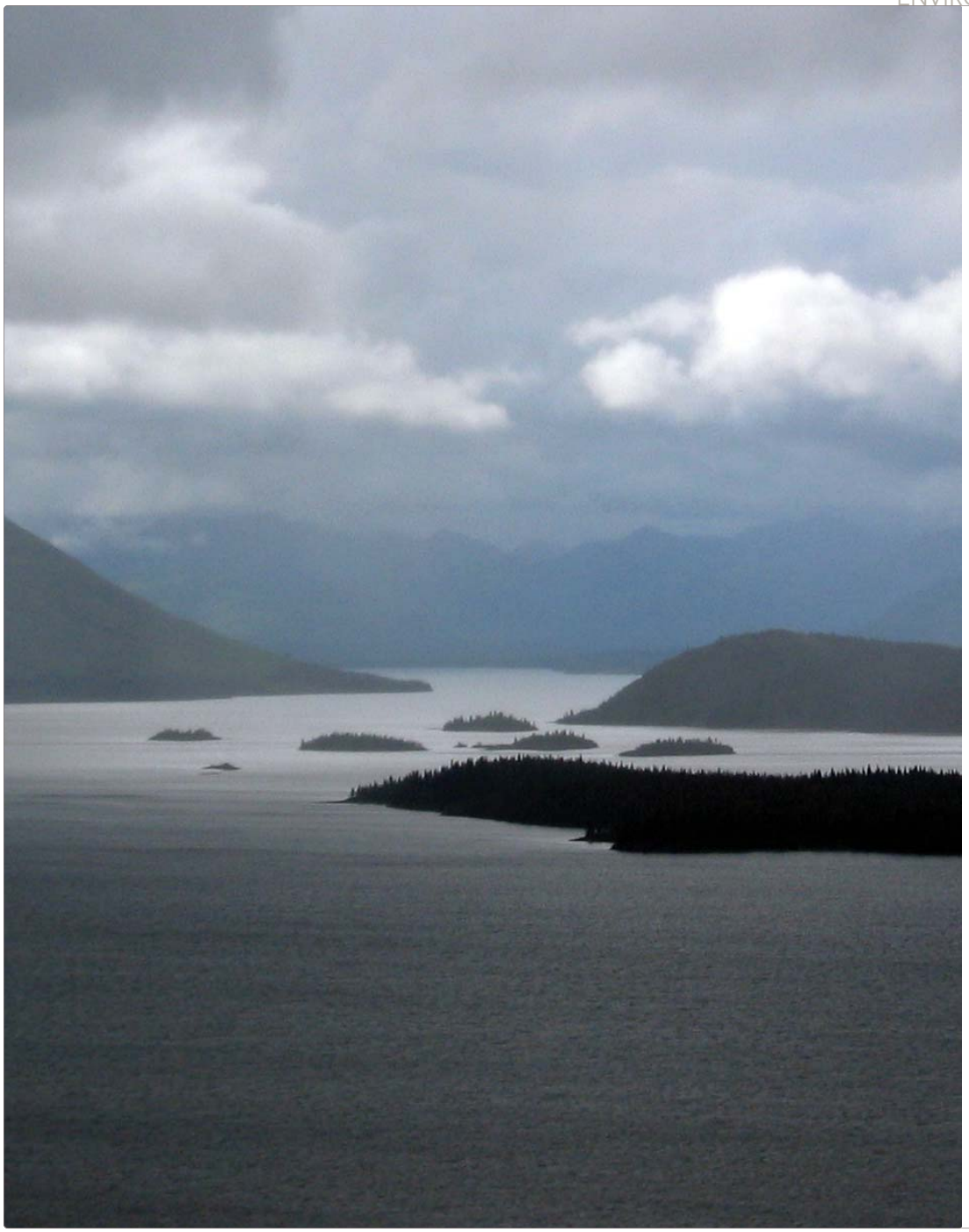
Strategy: Establishing an Ecosystem Based Management (EBM) Framework to Guide Conservation and Management Decisions

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 planning decisions may require an EBM framework in order to promote the durability of near-term gains.

Highlights of grantee accomplishments in 2007:

University of Montana

In 2007, the Foundation awarded a three-year grant to the University of Montana to expand and synthesize past research on pristine watersheds using integrated mathematical models. This research is aimed at understanding how physical habitat is related to salmon productivity and diversity, and how watersheds might fare in the future given human activities and environmental change. In a related project, the University of Montana completed an unprecedented analysis of satellite data on the physical attributes for all major watersheds in Alaska and British Columbia in 2007, with continuing efforts underway to complete similar analyses in Russia and the Pacific Northwest.



National Center for Ecological Analysis and Synthesis (NCEAS)

To date, there has been no Pacific-wide effort to evaluate and mitigate the potential effects of climate change on salmon ecosystems. Recognizing this void, NCEAS and WSEI convened a workshop of 40 scientists and practitioners in February 2007 to identify critical knowledge gaps. Results from this workshop were then used to develop a grant to NCEAS in late 2007 to conduct synthetic research on several of the high-priority research topics. Already, this project has begun to pull together scientists, managers and conservationists in an effort to better understand and respond to climate change in salmon ecosystems.

CONSERVATION INTERNATIONAL COMMITMENT

From 2001 through 2007, the Foundation committed approximately $360 million to Conservation International (CI) to support its efforts to conserve biological diversity at the species, site and corridor levels, to protect key hotspots and wilderness regions of the planet and to develop the capacity, directly and through partners, to implement, monitor, achieve, manage and sustainably finance very large-scale biodiversity outcomes. The Foundation's commitment to CI has focused on strengthening biodiversity science, building the decentralized strategy for protection of ecosystems in key geographies and the development of long-term financing mechanisms for biodiversity conservation. More information about CI's work can be found at **www.conservation.org.**

A few of the highlights from 2007, by program, include:

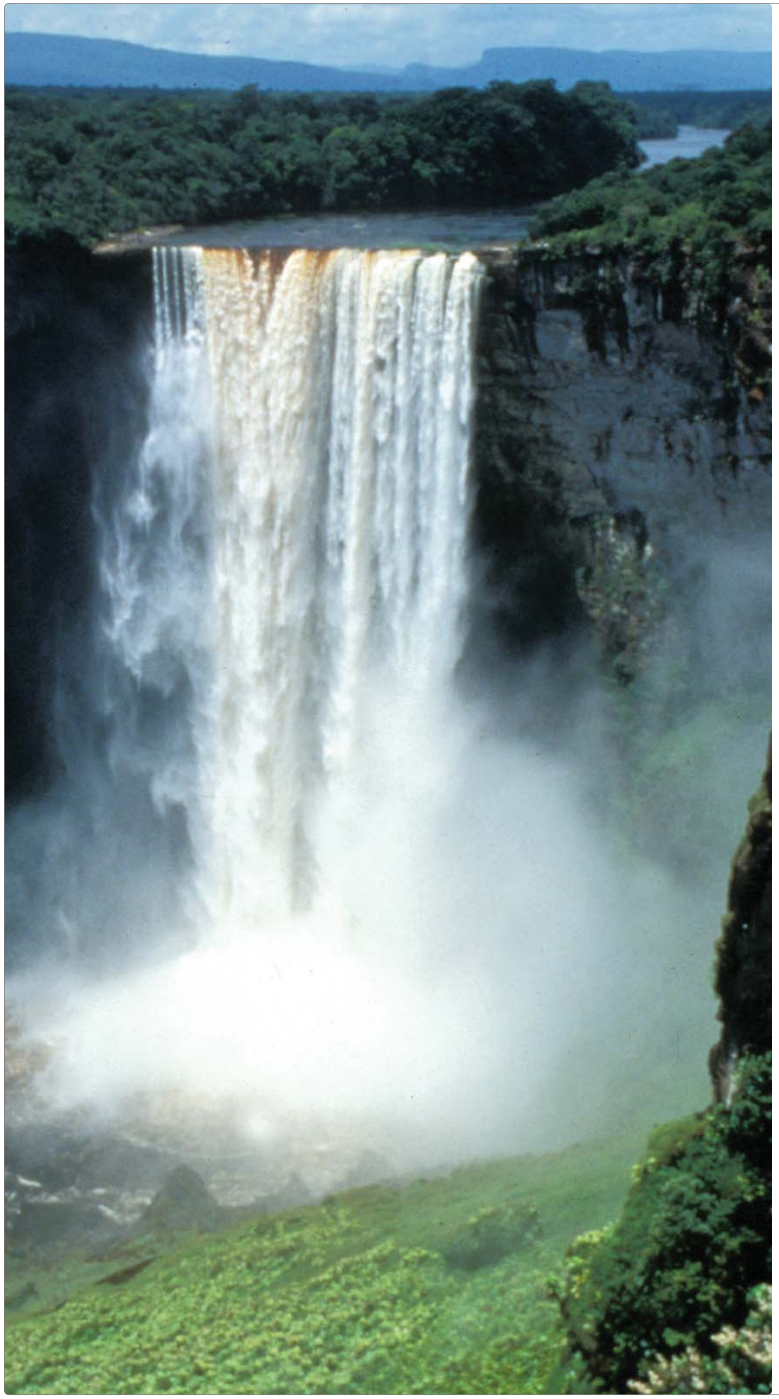
Global Conservation Fund

The Global Conservation Fund (GCF) finances the creation, expansion and long-term management of protected areas in the highest-priority places for conservation. Since its inception in 2001, GCF has enabled CI field programs and more than 40 partners to advance the protection of more than 79 million hectares of the most threatened and biologically important land and seascapes. For more information, go to **www.conservation.org/gcf.**

- With GCF support, the Pacific Island nation of Kiribati established the world's largest marine protected area. The Phoenix Island Protected Area covers 41 million hectares of one of the world's richest marine feeding and spawning areas. Kiribati and the New England Aquarium developed the protected area over several years of joint scientific research with funding and technical assistance from GCF and CI's Pacific Islands Program.
- GCF investments helped create an endowment fund to support effective long-term protection of Bahia de los Angeles, one of Mexico's most important marine reserves.
- GCF contributed to the development of an endowment fund to protect the rich diversity of the Galapagos Islands.

Center for Applied Biodiversity Science

Founded in 1999 by a grant from Gordon and Betty Moore, the Center for Applied Biodiversity Science (CABS) is the scientific division of Conservation International (**science.conservation.org**). Its staff of research scientists pursues a scientific agenda seeking to safeguard global biodiversity and create opportunities to benefit human well-being.



- With the International Union for Conservation of Nature (IUCN) Species Survival Commission and other partners, CABS completed global-scale assessments of all mammals and made the databases available to the general public. The global mammal assessment found that nearly 50 percent of the world's 634 primate species are in danger of extinction. In addition, the global amphibian assessment added more than 360 new species to the database. These assessments refined criteria and tools for the IUCN Red List process.
- At the United Nations climate change conference in Bali, CABS presented new data on vulnerability of the world's protected areas to climate change. CABS research on species extinction risks, and vulnerability of habitats and ecosystem functions (hydrology, carbon storage), was instrumental in the development of Madagascar's national climate change adaptation strategy. In six countries, CABS is supporting capacity building on application of cutting-edge remote sensing and mapping tools for assessment of carbon baselines to help implement projects that retain standing forests.
- CABS joined forces with CI's Center for Conservation and Governance to contribute analytical research on ecosystem service values to an ongoing global assessment by the European Union on the economic cost of biodiversity loss.

Marine Managed Area Science

The Marine Management Area Science (MMAS) program studies the effectiveness of marine managed areas (MMAs) and provides scientific results and methods for marine conservation and management. More information about MMAS can be found at **www.conservation.org/mmas.**

- In 2007, the discovery of a new reef on the Abrolhos shelf off the coast of Brazil doubled the known size of the South Atlantic reef structure. The discovery helped prevent oil exploration in the existing buffer zone protecting the reef, and is bolstering arguments for expanding the boundaries of Abrolhos National Park.
- The finding that Fijian fish are genetically distinct from fish populations in neighboring island nations underscores the necessity of local conservation efforts. Fiji cannot depend on immigration of fish from afar to replenish its waters. Based on these results, more than 100 Fijian village leaders and policymakers have renewed discussions about new MMAs and improving enforcement efforts.
- Belizean, Brazilian, and Bahamian reefs within MMAs have been shown to have greater diversity and abundance of marine life than those in unprotected areas, offering greater resiliency to damage and disease. These results are being shared with policymakers worldwide.

GCF has enabled CI field programs and more than 40 partners to advance the protection of more than

79 million hectares

of the most threatened and biologically important land and seascapes.

Tropical Ecology, Assessment and Monitoring Initiative

Under its Tropical Ecology, Assessment and Monitoring (TEAM) initiative, CI is fostering a culture of open access to ecological and conservation data, and developing a network of scientific field stations and a surveillance system to capture a standardized set of long-term data on tropical biodiversity.

- In partnership with the California Institute for Telecommunications and Information Technology (CALIT2), TEAM launched the first iteration of the TEAM Data Portal (**www.teamnetwork.org**), making all TEAM biodiversity monitoring data, along with the first set of data visualization tools, freely available online, in near real time.
- At the United Nations climate change conference in Bali, TEAM scientists presented the initial results of a major new analysis of the projected impacts of climate change on the World Protected Areas Network. Under the most likely scenario, more than half the world's PAs will be vulnerable to the impacts of climate change. Some regions—particularly tropical forests—may face the disappearance of their current climatic conditions by 2100.

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. For more information about the work and achievements of the CBCs, click here: **Centers for Biodiversity Conservation**.

Madagascar

- Currently, a network of conservation organizations is working to protect approximately 5.5 million hectares towards a goal of 6 million hectares (or 10 percent of the country's surface) set by President Marc Ravolomanana. CI provided financial and technical support for an additional 23 new PAs, and worked with the governments of Madagascar and France to secure a five-year, $20 million debt-for-nature swap.
- With the World Wildlife Fund, CI convened a climate adaptation workshop, bringing together the best available science to predict the impacts of climate change in Madagascar and to propose a resiliency plan for the island's biodiversity.

Andes

- In the last year, the Andes CBC contributed to the creation of four new protected areas totaling more than 700,000 hectares.
- With CAF (Andean Corporation for Development), CI helped launch Cóndor v3.0, a Web GIS application designed to highlight the impacts and potential environmental and social conflicts from major infrastructure projects such as IIRSA, the Integration of the Region Infrastructure of South America.

Brazil/Guianas

- In Brazil, CI and partners launched the BioCerrado Alliance to mobilize the private sector for the conservation of the Cerrado biome, as well as the National Pact for Valuation of the Forest and the Zero Deforestation Campaign for the Amazon. In the state of Pará, CI worked with the local government to launch the Zero Extinction Program, with the goal of avoiding the extinction of any species in the state, and helped establish Key Biodiversity Areas as high-priority sites for conservation.
- CI worked in partnership with the Wai Wai indigenous community and the government of Guyana to create the nation's first Community Owned Conservation Area, spanning 625,000 hectares along Brazil's border. CI has also helped initiate the Guyana National Protected Areas Trust, with an endowment goal of $20 million.
- In Suriname, CI assisted the Ministry of Education in including biodiversity conservation in the national curricula and textbooks for primary school, and awareness materials were developed for school-age children, primarily to be used at the Children's Book Festival.

Melanesia

- In Indonesian Papua, CI helped establish seven marine protected areas (MPAs). The Sayang/Piai turtle rookery protection program has saved more than 1250 turtle nests since September 2006, with a patrol post constructed and a hatchery now under construction.
- In November 2007, CI and Fiji Water announced a landmark partnership to protect the largest remaining area of rainforest in Fiji and establish the Sovi Basin Trust Fund with support from GCF.

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.

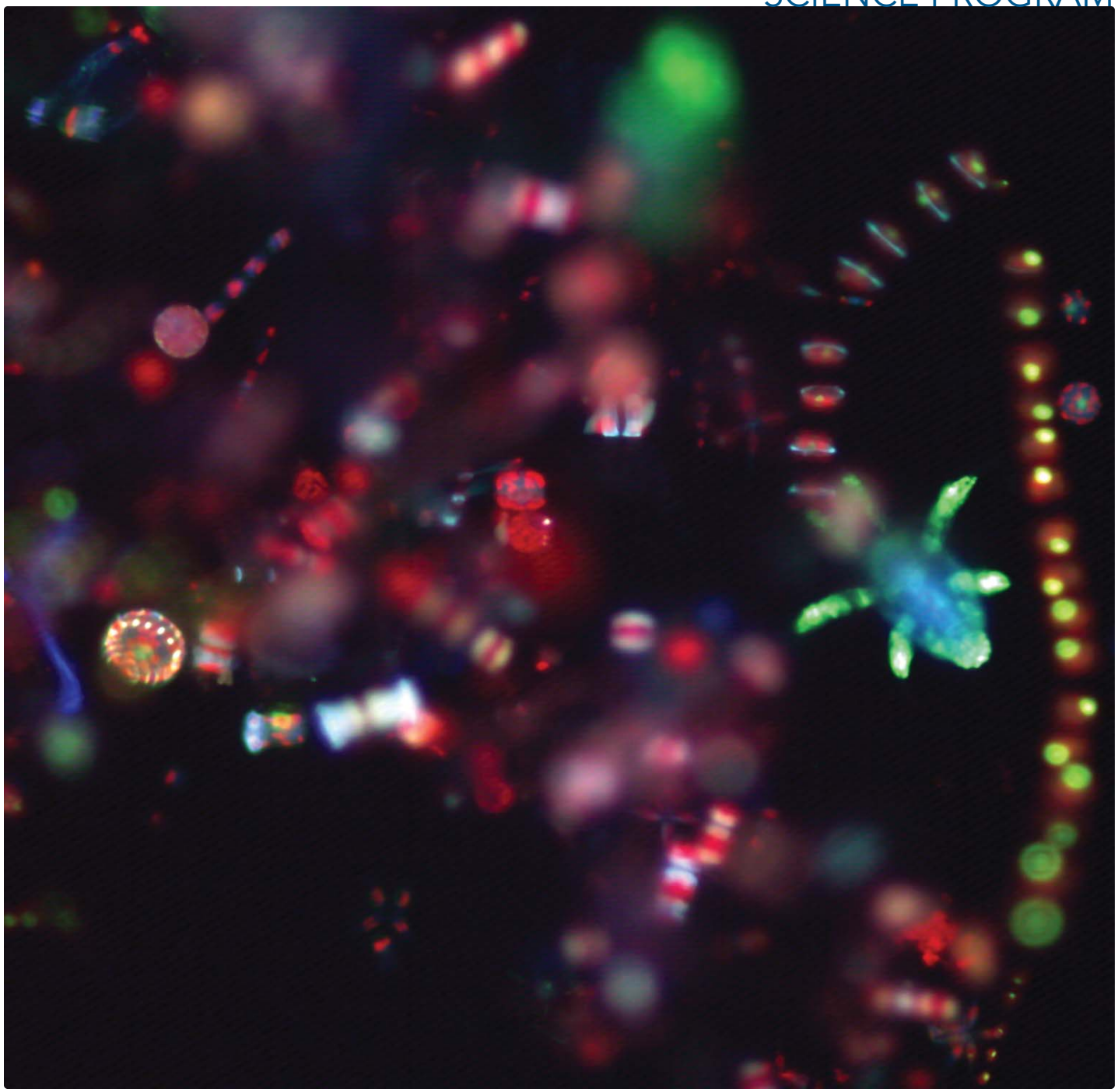
The Science Program includes the **Marine Microbiology Initiative,** a **Commitment to California Institute of Technology** (Caltech) and a **Commitment to the Thirty-Meter Telescope.**

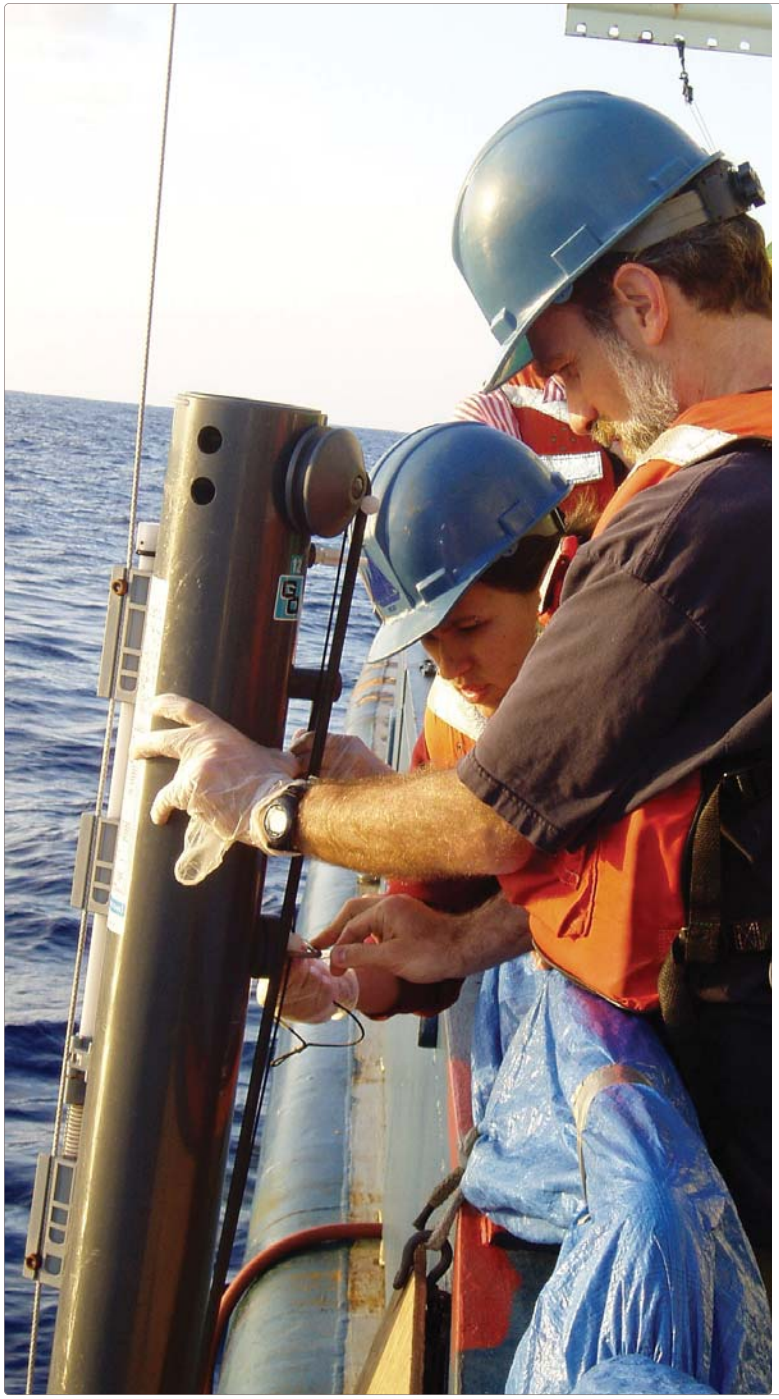
For a program overview and a list of grants awarded, please see www.moore.org/science.

MARINE MICROBIOLOGY INITIATIVE

CALIFORNIA INSTITUTE OF TECHNOLOGY COMMITMENT

THIRTY-METER TELESCOPE COMMITMENT





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 a significant fraction of the carbon emitted to the atmosphere by the burning of fossil fuels. The Foundation's Marine Microbiology Initiative (MMI) expects that its support will provide grantees and the broader scientific community with a deeper understanding of how marine microbial ecosystems function and evolve, will contribute to components of a global ocean monitoring network to monitor both the environment and microbial communities, and will yield a predictive understanding of marine microbial ecosystems, including the way they respond to perturbations and feedbacks to global systems. For a list of grants awarded, go to **www.moore.org/mmi-grants.**

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

- Support for Marine Microbiology Investigators
- Multidisciplinary expansion of the field of marine microbiology
- High impact research activities

Strategy: Support for Marine Microbiology Investigators

Funding for Marine Microbiology Investigators exemplifies the Science Program's philosophy of promoting scientific discovery through tactical exploration. Marine Microbiology Investigator grants are unique in that they provide flexibility for experts to respond quickly to new developments in their scientific fields without the constraints of rigid, and perhaps obsolete, research goals. The awards allow talented Junior and Senior Investigators to extend the boundaries of marine microbiology and marine microbial ecology through innovative hypotheses and approaches unlikely to be supported by conservative funding agencies.

Investigators have published or had in press **176 articles** and their awards have been used to train, hire or support the research of an additional **269 people.**

Marine Microbiology Investigator grants 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. This funding has contributed to the development of a core group of highly specialized, expertly trained new marine microbiologists and microbial ecologists. Funding provided for the work of these talented researchers has had an amplification effect. Each Investigator has trained as many as 20 undergraduates, graduate students and postdoctoral fellows in the specific, highly technical disciplines that make up the fields of marine microbiology and marine microbial ecology.

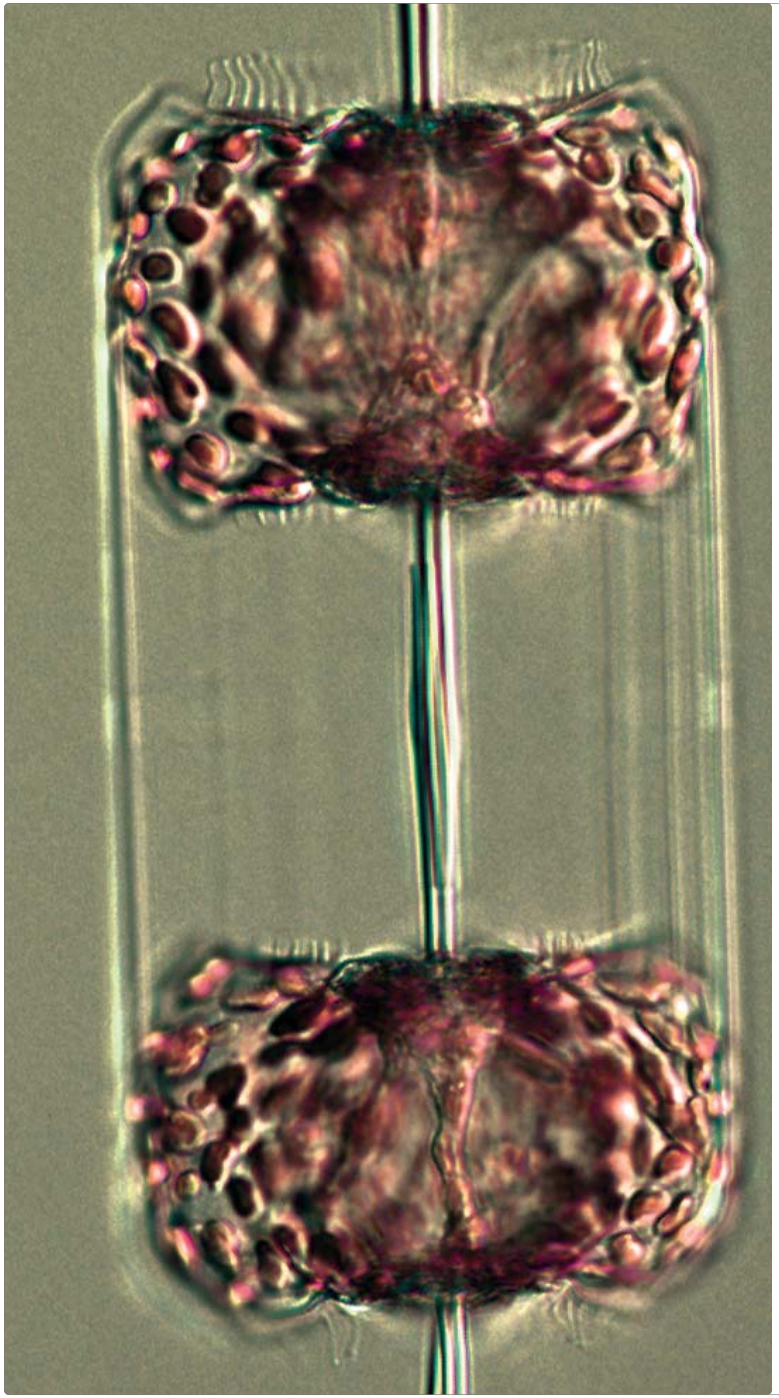
Over the four years of Investigator support, Investigators have published or had in press 176 articles, and their awards have been used to train, hire or support the research of an additional 269 people, greatly strengthening the foundation of marine sciences as a whole and benefiting the field of marine microbiology specifically.

Investigator grants have also established 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 sparse, scientists have little choice but to be protective of innovative approaches to pivotal questions in order to maintain a competitive edge in funding competitions. Under such circumstances, 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 in the following strategies have resulted from Investigator collaborations.

Examples of scientific discoveries made in 2007 by Marine Microbiology Investigators:

Uncovering the diversity and dispersal of nitrogen metabolizing organisms in the Earth's oceans

To confirm previous observations regarding differential geographical diversity, MMI-sponsored researchers completed a comprehensive examination of nitrogen metabolizing organisms in the central Pacific and compared their genetic diversity to marine microbes as a whole, with additional relevant studies conducted on the distribution of these organisms and their ecosystem function in North Atlantic, the Sargasso Sea, a coral reef lagoon in Australia, the Chesapeake Bay and the Amazon River plume. Results of the study help to map the dispersal of nitrogen



metabolizing organisms in the Pacific, and provide clues as to how phosphorus and nitrogen regulate their growth. Astonishingly, some of these organisms have apparently evolved quite differently from other marine microbes with regard to their genomic complexity. The research has also mapped spatial gradients of nutrients, chlorophyll and abundances of nitrogen-fixing bacteria throughout the South Pacific subtropical gyre, equatorial waters, the North Pacific Subtropical Gyre and the North Pacific Transitional Zone.

Finding evidence of the ecological basis for microbial genome evolution

Building on the diversity detected in the global microbial distribution maps developed in 2006, an MMI-sponsored Investigator designed a metabolic network model of the various Prochlorococcus genomes, along with one of the 1200-gene core genomes. Found in all strains, the "core" 1280 Prochlorococcus genes encode the information to run complete metabolic cycles (among other necessary competencies), and the "flexible" genes that are found in only a portion of Prochlorococcus strains reflect metabolic and physiological adaptations to the environments from which a given strain was isolated. This study offers insight into the ecologically driven evolution of microbial genomes.

Determining growth factors for propagation of HTCC2181, the smallest known free-living organism

In order to understand the basic metabolic requirements and carbon utilization strategies of HTCC2181, a ubiquitous bacterium found in open ocean environments and the smallest known free-living organism, Initiative-sponsored researchers worked to identify the growth factors for its propagation. Having successfully cultured the organism, the investigation determined that HTCC2181 uses C1 compounds (e.g., methane and methanol), and from metabolic reconstructions, concluded that vitamin B12 serves as the sole vitamin growth requirement supplied by the marine environment. Successfully propagating a ubiquitous oceanic microbe provides a clear path to being able to study it intensively in a controlled laboratory environment, an important step toward understanding what roles it might play in regulating biogeochemical cycles.

Systems biology, focused on **putting together** rather than **taking apart,** allows for a more holistic understanding of complex biological principles.

Strategy: Multidisciplinary Expansion of the Field of Marine Microbiology

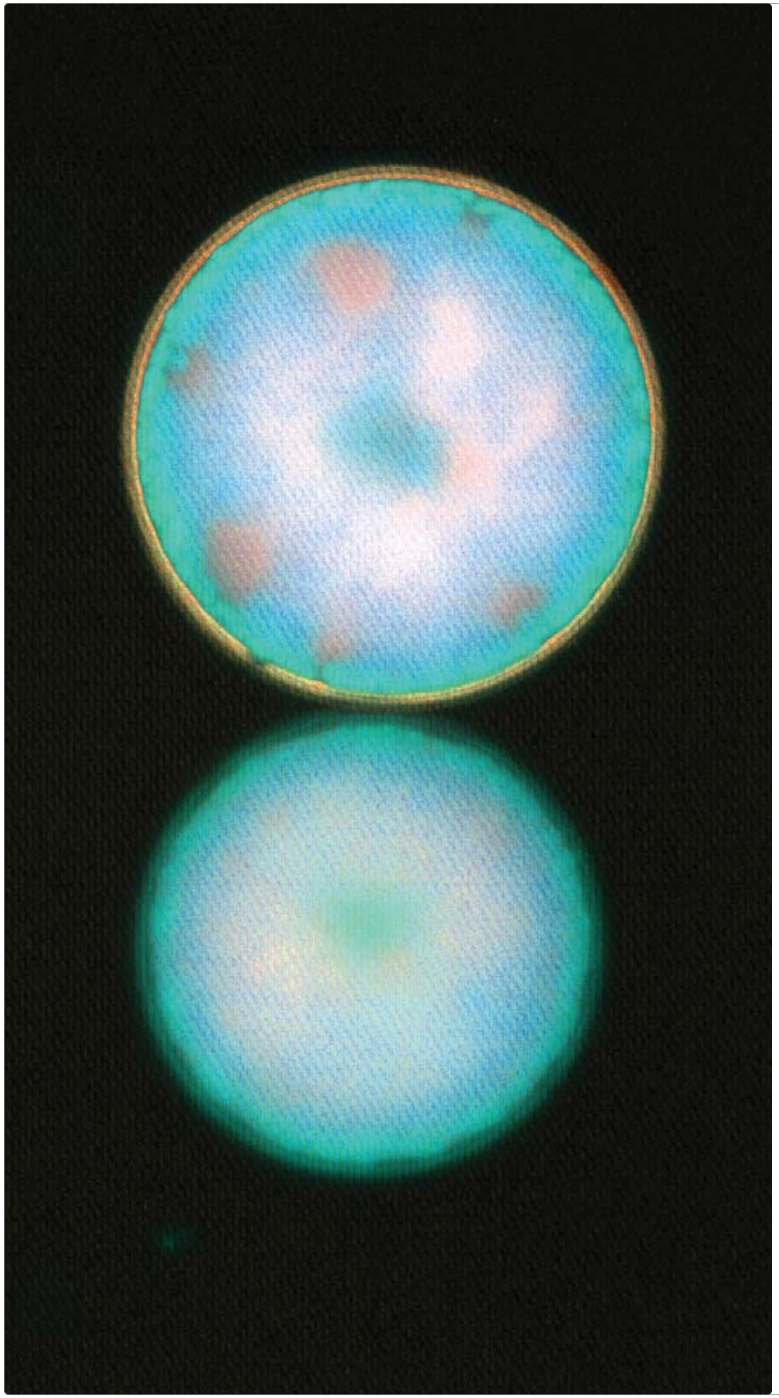
The Foundation holds a "systems" view of oceans and makes grants to foster collaboration among disciplines, with the long-term goal of developing predictive computational systems biology models that address ecosystem responses to environmental changes across scientific disciplines. The study of biology has long benefited from the reductionist approach where complex systems are taken apart to 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.

Woods Hole Oceanographic Institution (WHOI): Instrumentation for in situ cell sorting and identification

The Foundation provided a grant to the WHOI to support the development of in situ sorting and observational technologies of individual phytoplankton cells. By using flow cytometry technologies adapted from the biomedical field, this research demonstrated their utility and effectiveness in quantifying and characterizing in situ phytoplankton communities. Data from the so-called FlowCytobot showed that the annual bloom of an important marine microbe, Synechococcus, measured at the Martha's Vineyard Cabled Observatory is temperature-dependent. In addition, the FlowCytobot has provided unprecedented resolution of succession in diatom blooms. Finally, data from the Imaging FlowCytobot, an updated version of the instrument that utilizes a strobe and camera system to capture images of an individual microbe, confirm that it is capable of automated image analysis and classification of 16 phytoplankton genera with 88% overall accuracy. These methods greatly expand approaches to marine microbial biodiversity monitoring by offering unprecedented resolution of marine microbial populations and by doing so without relying on research cruises, which are expensive and subject to seasonal availability.

Monterey Bay Aquarium Research Institute (MBARI): Remote Detection of Marine Microbes and Genes

To create and test an ocean observatory instrument prototype with the capacity to monitor limited biodiversity at the genomic level, MBARI constructed the "Environmental Sample Processor" (ESP), and it was first deployed in Monterey Bay in mid-2007. The ESP provides



complex molecular analyses such as real-time application of DNA probe arrays (SHA) and protein arrays (ELISA), as well as the ability to archive samples for whole cell microscopy, nucleic acids and phycotoxins, all while being submerged and under pressure. The in situ testing of the ESP successfully demonstrated the application of three different types of DNA probe arrays during the same deployment to detect marine microbes faithfully in real time.

Strategy: Creation of High Impact Research Infrastructure

Grants made under the high impact research strategy are designed to generate long-standing research and technology infrastructure to accelerate the field of marine microbiology 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.

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 a project to sequence the genomes of over 155 cultured (propagated in pure culture in the laboratory) 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 Community Cyberinfrastructure for Advanced Marine Microbial Ecology Research and Analysis (CAMERA) and other public DNA databases.

Since this effort requires the ability to grow 155 axenic (uncontaminated, pure) cultures of marine organisms in the laboratory prior to preparing their DNA for sequencing, the project requires the coordinated efforts of a very large number of laboratories around the world to grow and submit samples to the J. Craig Venter Institute for DNA sequencing.

Through 2007,

133 genomes

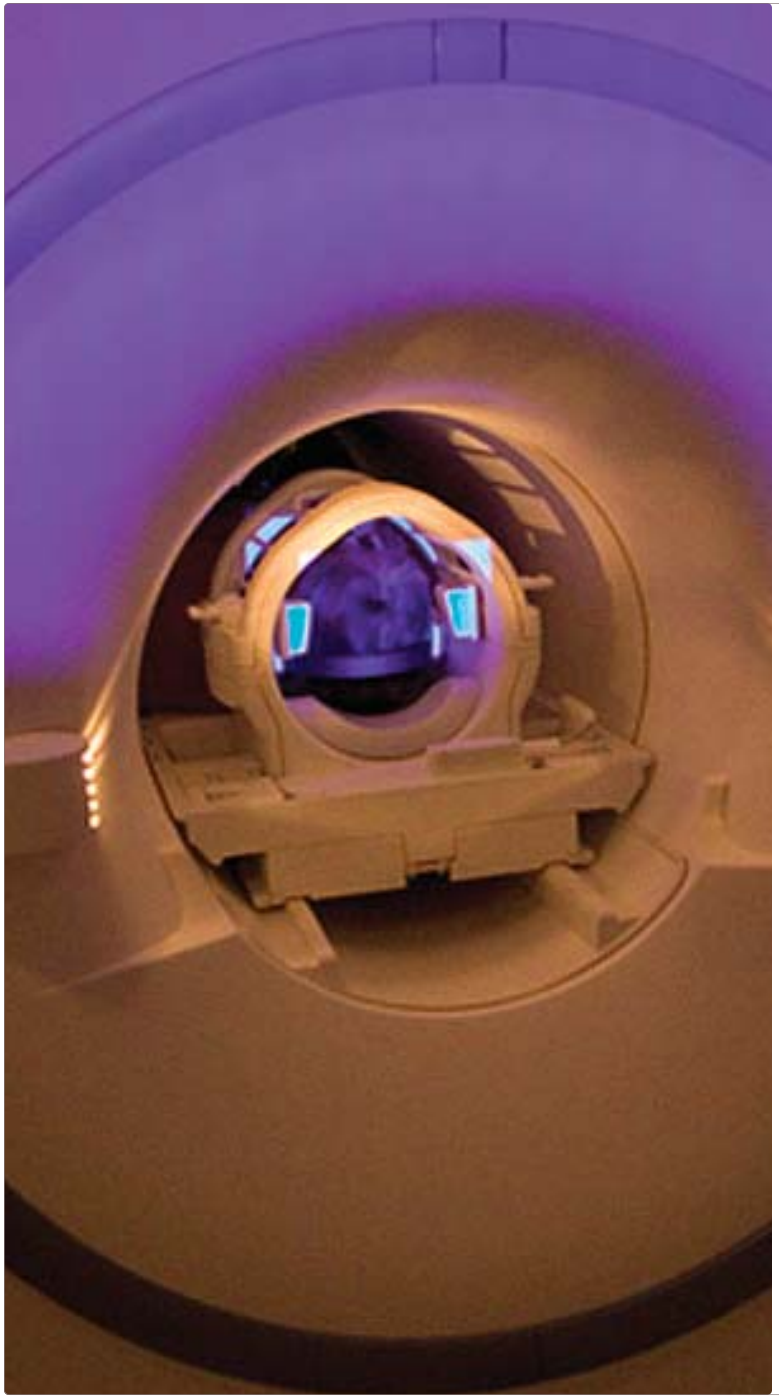
of microorganisms have been sequenced.

Through 2007, 133 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 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.

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

An initial grant to UCSD enabled the creation of CAMERA, 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 management and analysis of microbial DNA sequence information from environmental samples. Since the launch of this first-in-class metagenomics database on March 13, 2007, over 2000 users from more than 50 countries and 450 institutions worldwide have used the database. CAMERA gained wider applicability through the acquisition of the Marine NaCl-Saturated Brine metagenomic dataset from Spain, and of three non-marine metagenomic datasets (acid mine drainage, Minnesota soil and gutless worm). In less than two years, the newly-created CAMERA has become an internationally recognized and valued public metagenomics resource. In addition to metagenomic datasets, CAMERA is also home to the large number of marine microbial genome sequences generated by the Microbial Genome Sequencing Project (described above). These genomes serve as tremendously valuable reference scaffolds, or "knowns," to which metagenomic datasets are compared with the goal of characterizing environmental microbial communities.



CALIFORNIA INSTITUTE OF TECHNOLOGY COMMITMENT

The Foundation has committed $300 million in potential grants over 15 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 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 2007, $238 million of the $300 million Commitment has been awarded. For more information, go to **www.caltech.edu.**

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

Center for Sustainable Energy Research (CSER)

In late 2006, the Foundation approved a five-year grant in support of research in reliable generation, storage and use of renewable energy, through the creation of the Center for Sustainable Energy Research. United Nations projections have indicated that meeting global energy demand sustainably by 2050 will require not only increased energy efficiency, but also carbon-free sources of power for a significant percentage of the global energy supply. CSER's work is paving the way to the development of globally scalable, sustainable energy systems. These include more efficient end-use technologies and better methods of harnessing sources such as wind, geothermal, tidal and controlled nuclear fusion energy.

CSER leverages the fundamental research interests and directions of its faculty towards the solution of energy supply, storage and use problems, with not only national but indeed global implications. CSER is at the center of Caltech's effort to build a campus-wide energy research initiative. Work is beginning on three research fronts focusing on solar energy technologies: (1) designing inexpensive new materials and structures capable of converting sunlight to electricity at high efficiencies, (2) developing new catalysts and sunlight energy sources for splitting water to make hydrogen (a source of energy), and (3) developing a new class of electrolytes and solid acids, for use in fuel cells which convert chemical fuels to electricity.

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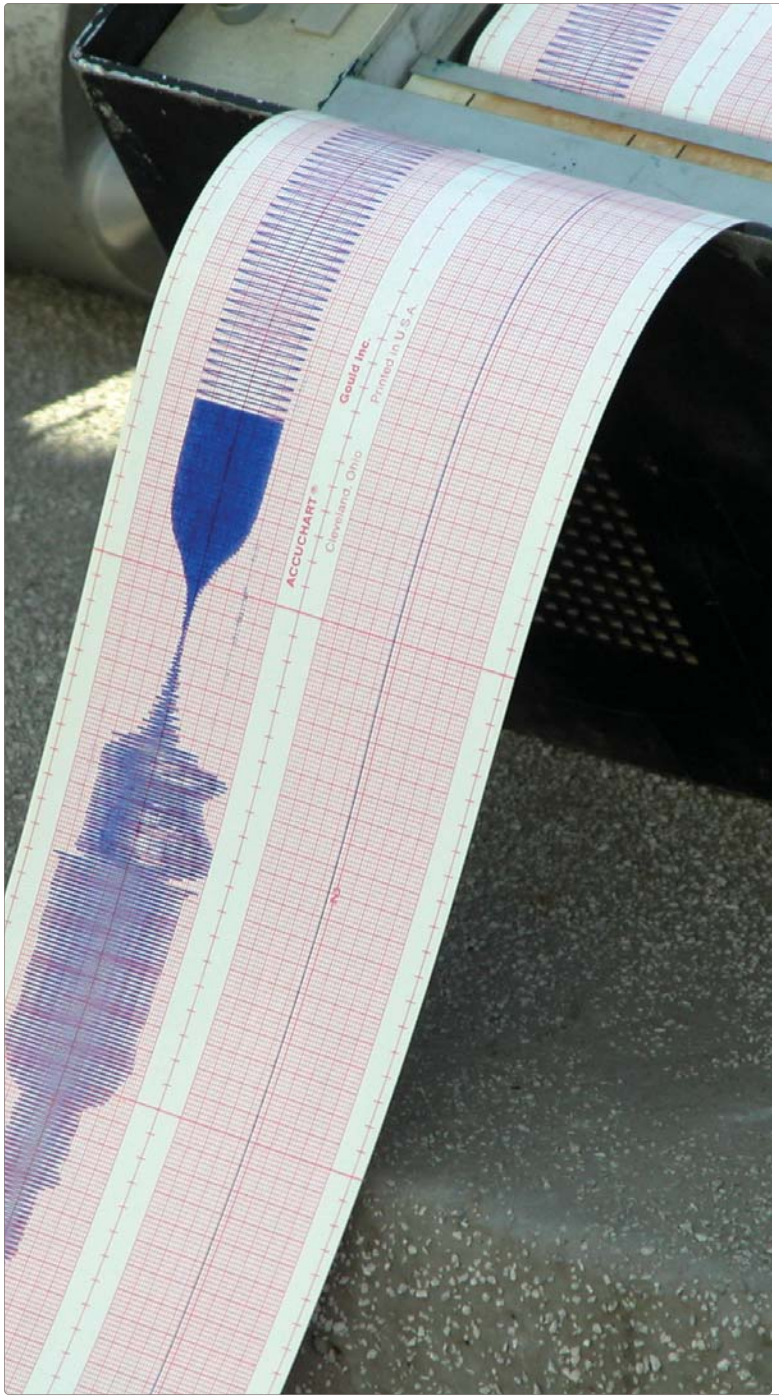
Research on Socio-Economic Systems

In recent decades, significant improvements in transportation and communication have made socio-economic systems increasingly interdependent. Little is known, however, about large interconnected socio-economic systems. This grant, awarded by the Foundation in 2006, supports experimentation with large, diverse and interconnected socio-economic systems.

Typically, the inter-related nature of social and economic systems makes field studies difficult to design and implement, because these fundamental inter-relationships are either unobservable or beyond control. As a result, theoretical analysis has driven most prescriptions regarding the design of social institutions, such as money and banking policy, health care or social security policy. To improve upon this practice, social scientists want to be able to design and change institutions in a controllable and reproducible manner. Laboratory experiments, where people interact in an environment with real risks and real rewards, provide such an opportunity. Experiments have recently gained broad acceptance as a complement to field studies, but they have mostly been limited to small-scale problems, involving single markets (partial equilibrium analysis) or confined strategic (game theory) and political (voting theory) situations. With this grant, Caltech faculty have begun to develop software and infrastructure to implement and control large-scale experiments that will allow for the study of larger, more complicated socio-economic questions.

Caltech played a decisive role in determining the method by which the FCC conducted its recent auction of the 700 MHz spectrum, in preparation for the conversion to digital TV signals. Caltech also helped provide an auction design that will be used in the upcoming 2009 Regional Greenhouse Gas Initiative cap and trade auction program involving the ten northeastern states, the first such program in the United States. Work on “poverty traps” in simple experimental markets was complemented with field studies in small southern Vietnamese villages involving three cultural groups: the Vietnamese, Khmer (Cambodian) and Chinese.



Center for Catalysis and Chemical Synthesis

In late 2006, the Foundation awarded a five-year grant to Caltech to establish the Center for Catalysis and Chemical Synthesis (3CS), in order to accelerate the discovery of powerful new catalytic chemical reactions and novel chemical architectures. The 3CS includes a facility for the rapid discovery or invention of powerful chemical reactions and a second facility for the rapid production of focused molecular libraries as probes for the discovery of fundamental biological pathways. Both facilities will be housed in proximity to one another and will employ common instrumentation, robotics and infrastructure in related research activities. With an integrated system of robotics, automated synthesis units, high-throughput screening instrumentation and state-of-the-art software to rapidly analyze and optimize experimental data, this new center will rapidly accelerate the discovery of powerful new catalytic chemical reactions and novel chemical architectures of fundamental importance to science, industry, society and the environment.

The Center for Analysis of Higher Brain Function

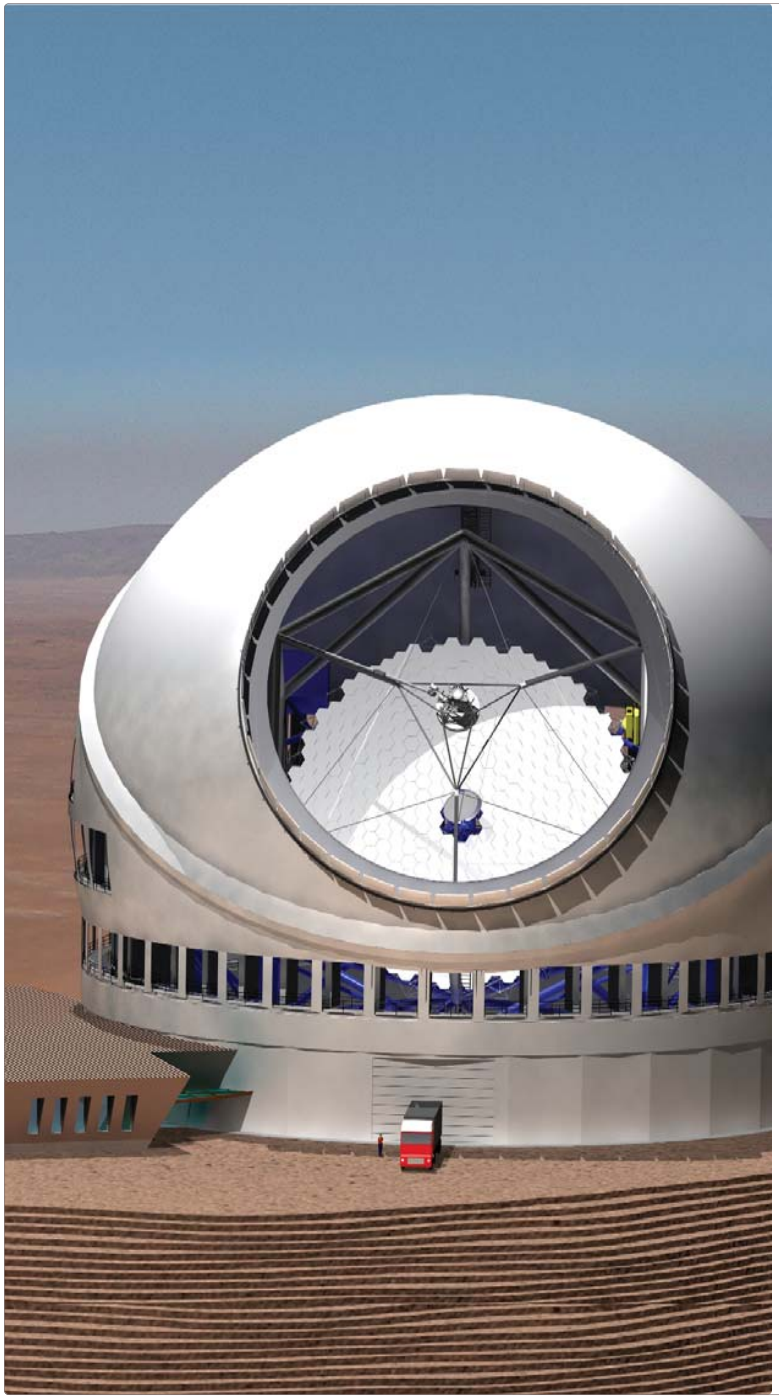
The grant to create the Center for Analysis of Higher Brain Function was approved in April 2002 and is expected to run through May 2010. The goal of the Center is to understand human consciousness by imaging the brain in development, function and dysfunction. The Center draws on faculty from all of the divisions of Caltech. With four different MRI instruments, the Center explores brain function in human subjects and animals ranging in size from small mice to advanced, non-human primates. In addition, 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 now obtained its second major National Institutes of Health grant.

Caltech scientists studied two rare human subjects with specific brain lesions to show how interactions between two portions of the brain, the amygdala and ventromedical prefrontal cortex (vmPFC) guide decision making. Researchers have also used two novel MRI techniques to study functional anatomical changes that occur from epilepsy in mice. The extension of MRI techniques from the brain to embryonic development is successfully being employed for quail, a species with a short incubation period. More information on the Center for Analysis of Higher Brain Function can be found at **magnet.caltech.edu.**

The Tectonics 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. Early efforts of the CTO have focused on building an infrastructure in which geologists, geochemists and geophysicists are working jointly on common problems via field campaigns, laboratory measurements and computer modeling. The ultimate goal is to provide a new view of how and why the earth's crust and lithosphere are deforming over timescales ranging from a few tens of seconds, the typical duration of an earthquake, to tens of millions of years. During 2007, the Sumatran Plate Boundary Project provided timely and valuable measurements before, during and after a series of earthquakes in 2007. Research also showed that earthquakes are more likely to occur in the Himalayan region during winter because the earlier monsoon rains, which have soaked into the ground by then, tend to push the stress-laden front range of India into Eurasia. More information about Caltech's Tectonic Observatory, including a bibliography of journal articles produced from projects and data from the Observatory, can be found at **tectonics.caltech.edu.**

Geologists, geochemists and geophysicists **are working jointly on common problems** via field campaigns, laboratory measurements and computer modeling.



THIRTY-METER TELESCOPE

In 2003, the Foundation committed $17.5 million to fund a detailed design study of the Thirty-Meter Telescope (TMT). These initial funds supported the California Institute of Technology and the University of California in early design and development plans for the world's largest ground-based optical/infrared telescope. In August 2007, the Foundation increased its commitment to the California Institute of Technology and the Regents of the University of California with an additional $7.5 million each for the development of the TMT. In December 2007, the Foundation pledged an additional $200 million for its design and construction.

More information on the Thirty-Meter Telescope can be found at **www.tmt.org.**

Highlights from the Design and Cost Analysis for the Thirty-Meter Telescope include:

Currently under development by a U.S.-Canadian team that includes the California Institute of Technology, the University of California, and the Association of Canadian Universities for Research in Astronomy (ACURA), the TMT observatory will be capable of peering back in space and time to the formation of the first stars and galaxies, and will be able to directly image planets orbiting other stars. Completion of TMT's design development is expected in 2009.

Based on initial design phase studies, the Science Advisory Committee selected three early light instruments: a wide-field, multi-object spectrograph working at optical wavelengths called WFOS; an integral-field unit spectrometer with imaging capability working at near-infrared wavelengths called IRIS; and a multi-slit, near-infrared spectrometer with imaging capability called IRMS.

Global satellite surveys had yielded five preliminary candidate sites for the telescope in Chile, Hawaii, and Mexico. Comprehensive ground-based testing has narrowed the final two site choices to Mauna Kea, Hawaii and Cerro Armazones, Chile.

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.

San Francisco Bay Area

The San Francisco Bay Area Program includes the **Betty Irene Moore Nursing Initiative**, a **Commitment to the Betty Irene Moore School of Nursing**, and two areas of focus, **Land Protection** and **Science and Technology Museums**.

For a program overview and a list of grants awarded, please see www.moore.org/bayarea.

SAN FRANCISCO BAY AREA

BETTY IRENE MOORE NURSING INITIATIVE

BETTY IRENE MOORE SCHOOL OF NURSING COMMITMENT

LAND PROTECTION

SCIENCE AND TECHNOLOGY MUSEUMS

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) and five Greater Sacramento counties (Amador, Nevada, Placer, Sacramento and Yolo). From the time that BIMNI was approved by the Foundation's Board of Trustees in late 2003 through the end of 2007, over 70 grants have been awarded, totaling more than $65 million. Grants awarded range from $20,000 to $7.5 million, and are made in durations that range from one to nine years. In late 2007, the Foundation's Board of Trustees approved the geographic expansion of BIMNI to Greater Sacramento, with the goal of improving nursing-related patient outcomes through partnerships with hospital systems and other healthcare organizations in the region. For a list of grants awarded, go to **www.moore.org/bimni-grants**.

The Initiative has identified two strategic areas for investment:

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

Strategy: Develop a larger, more highly skilled RN workforce

As the largest healthcare workforce providing the majority of direct 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 other healthcare organizations that BIMNI supports 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 the Initiative's inception, schools of nursing in the Bay Area have expanded educational capacity, and the number of new highly trained RNs available for acute care hospitals has increased.

Highlights of grantee accomplishments in 2007:

- Produced 154 new registered nursing graduates in Bay Area hospitals, beyond the number of graduates nursing schools would have produced without Foundation grants.
- Expanded enrollment in pre-licensure nursing education programs by 28% beyond the level

Between 2003 and 2007, over **70** grants have been awarded, totaling more than **$65** million

prior to BIMNI funding and beyond the increased enrollment outside of Foundation grants.

- Graduated 78 new nurse faculty as a result of grants made to post-baccalaureate education track programs in local nursing schools.
- Created greater efficiencies between schools and hospitals, and developed more collaborative strategic partnerships.
- Alleviated the shortage of student clinical placements, a key barrier to increasing enrollment, and as a result, expanded nursing school capacity by 10% through the Centralized Clinical Placement System.

Samuel Merritt College

Since 2004, the Foundation has funded Samuel Merritt College through a grant to support the planning and implementation of an Accelerated Bachelor of Science in Nursing (ABSN) degree program at three different sites in Oakland, San Francisco and San Mateo. The 12-month degree program offers an accelerated curriculum for nursing school applicants who already have a bachelor's degree in a non-nursing field. In 2007, a total of 121 nursing students were enrolled at the three different sites. By the end of 2010, this program is expected to have added at least 540 nurses with BSNs to the Bay Area workforce.

California Institute for Nursing & Healthcare

In 2007, the Foundation funded the California Institute for Nursing & Health Care (CINHC), in partnership with the California Board of Registered Nursing (BRN), to develop and implement an adjunct clinical faculty training program to prepare 60 RNs to become new clinical educators in Bay Area hospitals and schools. This program prepares MSN-level RNs to become clinical instructors and BSN-level RNs to become assistant clinical instructors who will help provide higher quality clinical experiences for nursing students and help the community meet the specific, immediate needs for clinical educators in the Bay Area. CINHC has trained 60 new clinical educators for the Bay Area, and there is state-wide interest in replicating this program elsewhere in California.

The Foundation also awarded a grant to CINHC in July 2006 to develop a white paper on nursing education redesign in California. The report has helped educate stakeholders state-wide on the highest priority needs in nursing education to better prepare nurses to meet the demands of today's healthcare environment. A diverse group of nearly 100 key stakeholders were gathered from across the state to examine the major forces driving the need for nursing education redesign,

review current best practices and evidence-based innovations, and ultimately develop a broad-based consensus within the nursing education and practice community for an optimal nursing education system in California. This paper identifies seven recommended strategic priorities and provides action plans for implementation of the specific recommendations. This paper was co-sponsored by the American Nurses Association California (ANAC), California Organization of Associate Degree Directors-North and South (CO-ADN), the Association of California Nurse Leaders (ACNL), the California Association of Colleges of Nursing (CACN) and the California Board of Registered Nursing (BRN).

Strategy: Implement more effective hospital practices

According to the Institute of Medicine, between 44,000 and 98,000 Americans die each year in hospitals from preventable 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 organizations and associations that BIMNI supports efforts to implement best practices in nursing, to develop and implement system-wide quality improvement and patient safety programs, and to identify and disseminate improved discharge planning for high-risk elder patients.

Highlights of grantee accomplishments in 2007:

- More than 200 lives saved through local support of the national 100,000 Lives Campaign.
- Achieved a >50% reduction in high risk medication administration errors at seven Bay Area hospitals.
- 85% of Bay Area hospitals voluntarily participating in Beacon, the Bay Area Patient Safety Collaborative.

The Center for the Health Professions, UCSF

In 2004, the Foundation provided a 38-month grant to The Center for the Health Professions (CHP) at UCSF to launch the Integrated Nurse Leadership Program, with the goal of developing the leadership and change management skills of nursing managers and frontline nursing staff. During the Integrated Nurse Leadership Program, frontline nursing teams apply these skills to specific patient care improvement projects on medical-surgical units in their hospitals. Through the program, CHP has helped seven Bay Area hospitals reduce medication administration errors by over 50% through the effort of their frontline nursing staff.

767 nurses from **36** medical surgical units across the country participated in a unique time-motion study.

Kaiser Foundation Hospitals

With a 15-month grant, Kaiser Permanente (in partnership with Ascension Health) studied the influence of specific nursing workplace variables on acute care hospital care delivery and offered recommendations for the design of an optimal nursing unit. A total of 767 nurses from 36 medical-surgical units across the country participated in research designed to assess how they spend their time by measuring location, movement, and nurse physiologic response. The research, which culminated in the "Time and Motion Study," found that nurses on average spend just 20% of their time on patient care activities and identified documentation and care coordination as primary reasons for time spent away from the bedside. The research also highlighted changes in technology, work processes, and unit organization and design that would lead to increased nurse time spent in patient care. The results of the "Time and Motion Study" are now informing hospitals regionally and nationwide of the physical and environmental workplace factors impacting the delivery of nursing care. This project was co-funded by the Robert Wood Johnson Foundation.

Initiative-wide Programs

In 2006, the Foundation launched The Betty Irene Moore Speaker Series: *Leading the Way in Nursing*. Since its inception, the series has featured:

CLAIRE FAGIN, RN, PHD, FAAN
INAUGURAL SPEAKER, BETTY IRENE MOORE SPEAKER SERIES

- A Conversation with Claire Fagin, RN, PhD, FAAN, moderated by Patricia McFarland, MS, RN. May 17th, 2006.
- A Conversation with Linda Aiken, RN, PhD, FAAN, FRCN, moderated by Mary Foley, RN, MS. September 29th, 2006.
- A Conversation with Shirley Chater, RN, PhD, FAAN, moderated by Deloras Jones, RN, MS. May 16th, 2007.
- A Conversation with Martha N. Hill, RN, PhD, FAAN, moderated by Diana Russell, RN, MS. October 11th, 2007.
- A Conversation with Angela Barron McBride, RN, PhD, FAAN, moderated by Joan P. Smith, RN, MPA, CNAA BC. May 7th and 8th, 2008.

This forum provides a unique opportunity for Bay Area frontline nurses and nursing students to interact with leaders in the nursing field whose efforts have helped redefine the profession and transform nursing care.

In 2007, the Foundation committed

$100 million

over 11 years for the Betty Irene Moore School of Nursing at UC Davis.

BETTY IRENE MOORE SCHOOL OF NURSING

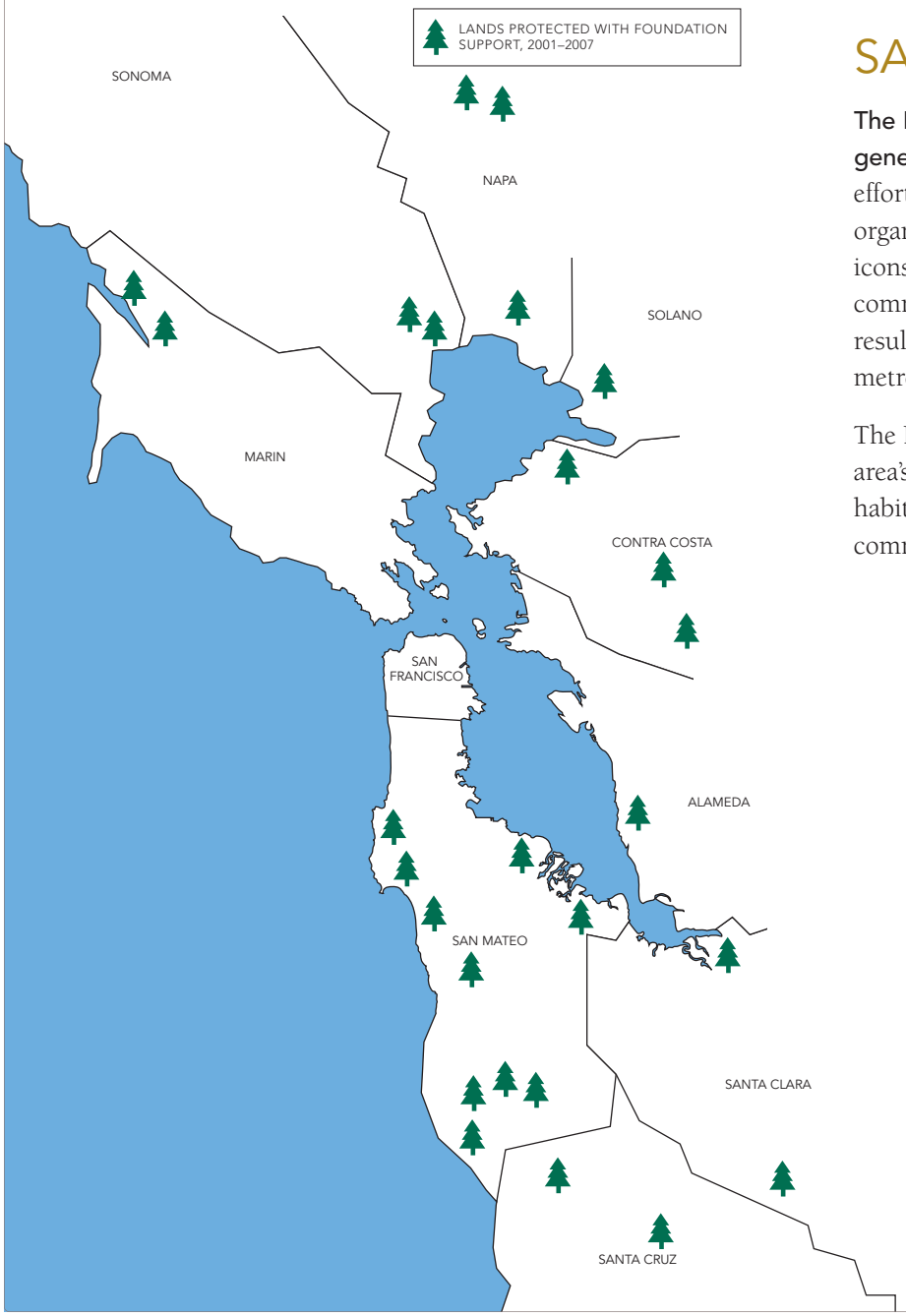
In 2007, the Foundation committed $100 million over 11 years for the Betty Irene Moore School of Nursing at the University of California, Davis, established to train nurse leaders of the future capable of improving patient care, patient safety and health outcomes. Once established, the Betty Irene Moore School of Nursing will leverage UC Davis' strength in intensive and immersive inter-professional curriculum to provide comprehensive education for future nurse leaders who will serve as a force of change in healthcare. By designing an innovative nursing education model, the School seeks to make positive, long-term, systemic impacts in health care for all. For more information, go to **www.ucdmc.ucdavis.edu/nursing.**

Vision: The Betty Irene Moore School of Nursing at the University of California, Davis, seeks to train future generations of highly skilled and well prepared nurse leaders, educators and researchers who will improve patient care through positive, long-term systemic impact in healthcare across California and throughout the nation.

Mission: The Betty Irene Moore School of Nursing at the University of California, Davis, will foster nursing excellence through a comprehensive educational model that incorporates scientific rigor and immersive, inter-professional training for its students. Its graduates will lead healthcare teams that advance patient care and safety, prevent and treat diseases, and improve access to and quality in an ever-changing and increasingly complex healthcare system nationwide.

Highlights in 2007 include:

- A national faculty and administration recruitment search was launched in 2007 to ensure the School has highly qualified faculty to conduct nursing research and to teach the best and brightest nursing students. Additionally, work is underway to develop the curriculum, market the program, and build its development capacity to raise additional funds for the school.
- The School plans to open for its first cohort of master's and Ph.D. candidates in Fall 2009, and expects to enroll its first bachelor's candidates in Fall 2010 or 2011.



SAN FRANCISCO BAY AREA 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.

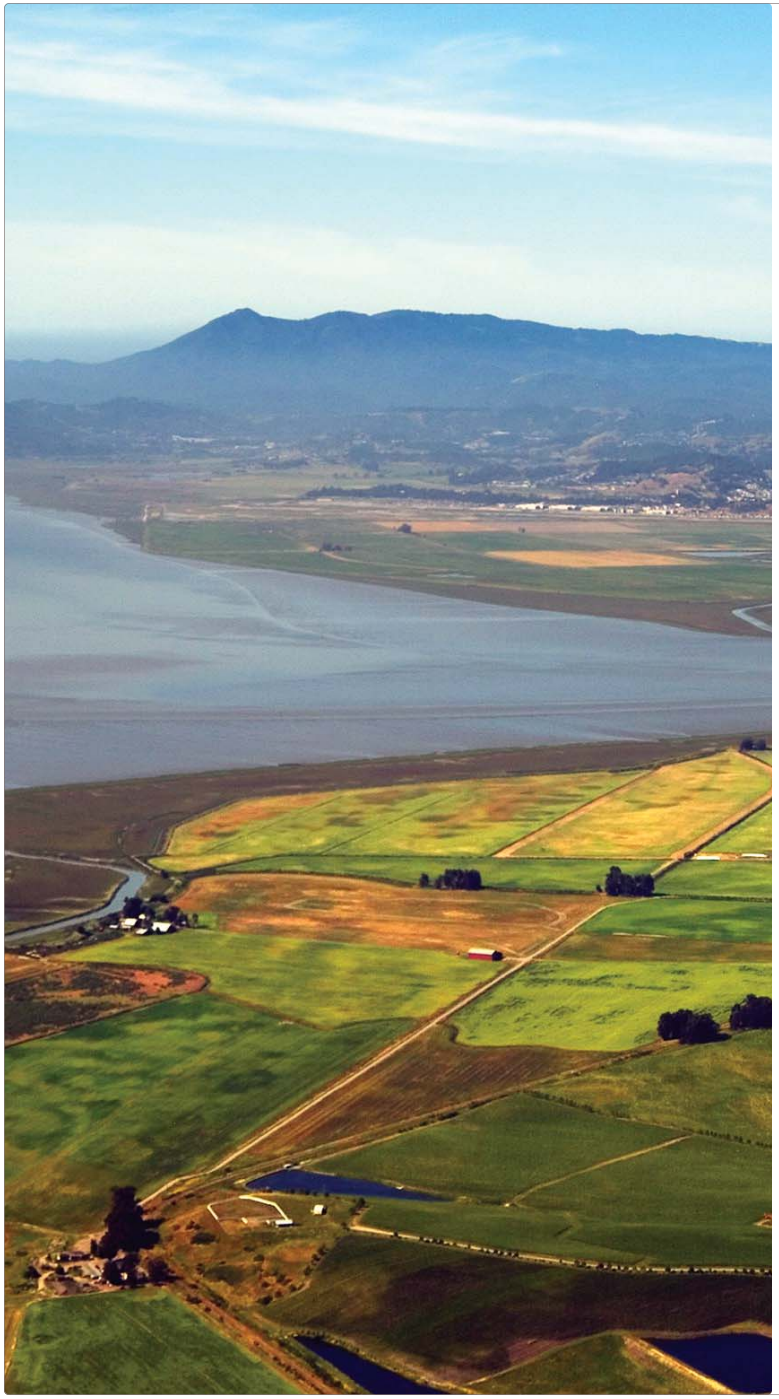
The Foundation makes grants for land acquisition and conservation easements. For a list of grants awarded, go to **www.moore.org/land-grants**.

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 $100 million in support of local land protection for more than 50,000 at-risk acres.



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

Sonoma Land Trust

A 2007 grant to Sonoma Land Trust funded the permanent protection of 1,689 acres of upland riparian habitat in southern Sonoma County. Before acquisition by SLT, the southern Sonoma County property had become a desirable target for development, with 13 separate legal parcels and easy road access to major highways and the Bay Area. Instead, the acquisition successfully completes the protection of the entire Tolay Creek watershed. The protected acres extend the boundaries of Tolay Lake Park and complete a seven-mile, 6,000-acre open space corridor of contiguous protected lands from the oak studded foothills of Sonoma Mountain to the tidal wetlands along the edge of San Pablo Bay. Habitats on the property include moist grasslands, approximately 2.5 miles of creek and riparian corridor, open meadows and oak woodlands. These collective habitats support an abundance of species including an active Golden Eagle nest site, the Opler's Longhorn Moth and Northern Burrowing Owl. All three species are designated as California species of special concern.

The 2007 grant to protect the upland riparian areas combines with prior funding from the Foundation for Sonoma Land Trust to permanently protect 2,329 acres threatened wetlands and related upland habitats in the North Bay, and complete an extensive restoration planning process with the community, to restore tidal marsh and an ecologically viable ecosystem capable of providing habitat for threatened species, migratory shorebirds and waterfowl. Agencies and Sonoma County residents joined together to continue to raise additional funds and move this restoration project forward.

Save Mt. Diablo

A one-year grant to Save Mount Diablo in 2007 supported the organization's work to secure and finalize the permanent protection of the 320-acre Irish Canyon parcel, part of the Black Diamond Mines/Mt. Diablo Open Space Corridor in Contra Costa County. The parks and preserves around Mt. Diablo span some 90,000 acres—one of the Bay Area's most significant assemblages of land and wildlife habitat. Another 90,000 acres of undeveloped lands north of Altamont Pass face the threat of development, which could fragment and divide parks and impact their resources. The Irish Canyon parcel includes broad views, interesting history related to the nearby historic Mt. Diablo Coal Field, and a multitude of habitats supporting a wide array of wildlife. The acquisition of this property represents an integral part of a landscape-level, strategic effort to protect privately held land in the area. Protecting additional lands around Mt. Diablo expands,

In 2007, POST permanently protected

1,047 acres of highly visible and scenic ridge line property

on Mindego Hill.

consolidates and buffers land already protected, and increases overall benefits for wildlife, recreation and aesthetic preservation.

Peninsula Open Space Trust (POST)

In 2007, POST permanently protected 1,047 acres of highly visible and scenic ridge line property on Mindego Hill in San Mateo County. This dramatic volcanic landscape ranked as a top priority for protection based on its habitat significance, watershed and recreational potential. Mindego Hill contains a rich and diverse community of native plants and wildlife, making its habitat high value for conservation. The riparian woodlands, which occur along Mindego Creek, support a diverse ecological community of deciduous trees such as big-leaf maple and the evergreen California bay laurel that tower above a lush under story of forbs and shrubs. The drier slopes and more exposed ridges are dominated by Douglas-fir, while the wetter slopes and more protected valleys contain second- and third-growth coast redwood. The varied habitat provides a rich resource for many wild animals, including mountain lions, coyotes, bobcats, meadow mice, pocket gophers, badgers and dusky-footed woodrats. Along with the rare and endangered San Francisco garter snake and California red-legged frog, this area also affords prime breeding habitat for the Long-eared Owl, a state Species of Special Concern.

While development of the property could have resulted in multiple luxury estates, the parcel has instead become part of the Russian Ridge Open Space Reserve. Conserving this landscape helps create a strategic swath of open space containing nearly 33,000 acres, linking core wild lands for both wildlife habitat connectivity and plant dispersal, and adding recreational opportunities for outdoor enthusiasts.

Marin Agricultural Land Trust (MALT)

MALT used a one-year grant in 2007 to conserve 761 acres of the Poncia Ranch in Marin County through an agricultural conservation easement. The property straddles the ridge between Tomales Bay and Walker Creek, south of the town of Tomales in Marin County. A former dairy, the Ranch's broad grasslands and hillsides provide forage for a small-scale cattle operation. The agricultural conservation easement protects the Ranch from subdivision and non-agricultural development by permanently retiring future residential development rights. The Ranch, which contains areas of coastal prairie, riparian woodland and scrub, shrubland and evergreen woodland, provides habitat for many of the species found in the Tomales Bay watershed. This

easement will effectively conserve this valuable open space in perpetuity, while enhancing the water quality of both Tomales Bay and Walker Creek, an important salmon and steelhead stream.

Save the Redwoods League

The Foundation awarded the Save the Redwoods League with a one-year grant in 2006 to protect 100 acres of ancient redwood and other forest lands in San Mateo County, and this acquisition was completed in 2007. The coastal redwood Sequoia sempervirens exists naturally only along a narrow coastal band that extends from the Big Sur coast to southern Oregon. Two centuries ago, the coastal redwood forest spanned nearly two million acres. Today, after the intensive logging of the nineteenth and twentieth centuries, only 80,000 acres of these ancient redwoods survive. By acquiring and permanently protecting this parcel of land adjacent to the 600-acre Butano State Park, Save the Redwoods prevented the adverse ecological consequences of residential development or logging, instead adding this critical part of the watershed to a growing network of parks, reserves and connecting landscapes.

SCIENCE AND TECHNOLOGY MUSEUMS

The Foundation awards grants to Bay Area science and technology museums to support innovative educational 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.

Through 2007, the Foundation awarded more than $33 million to various 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 two to three years. Current grant awards vary from approximately $500,000 to $1.5 million in size. For a list of grants awarded, go to **www.moore.org/museum-grants**.

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

Tech Museum of Innovation

In 2007, the Foundation awarded a two-year grant to the Tech Museum for an innovative "open design" project to transform the scale of collaboration within the science and technology museum field by applying open source methods and technologies to the exhibit design process. In December 2007, The Tech Museum launched its virtual design platform with a competition to engage a global community of exhibition builders, craftspeople, museum curators, educators and artists to work collaboratively in a virtual, open source environment to develop exhibits around the theme of "Art, Film and Music". Seven physical exhibit prototypes, based upon the virtual winners of this competition, are currently on exhibition at the Tech Museum.

California Academy of Sciences

This three-year grant awarded in 2007 supports an innovative "Science in Action" exhibit and program focused on showcasing contemporary science issues to multigenerational audiences, leveraging a multimedia platform and the educational assets at California Academy of Sciences to increase public interest in and understanding of science. A key component of the grant includes the development of community partnerships to enrich content and program quality and to expand the reach and impact of the project. The exhibit opens on September 26, 2008, with the re-opening of the new Academy in Golden Gate Park, with educational programs scheduled throughout the year to investigate current science topics in more depth through series of lectures, science cafes, planetarium events and classroom field trips.

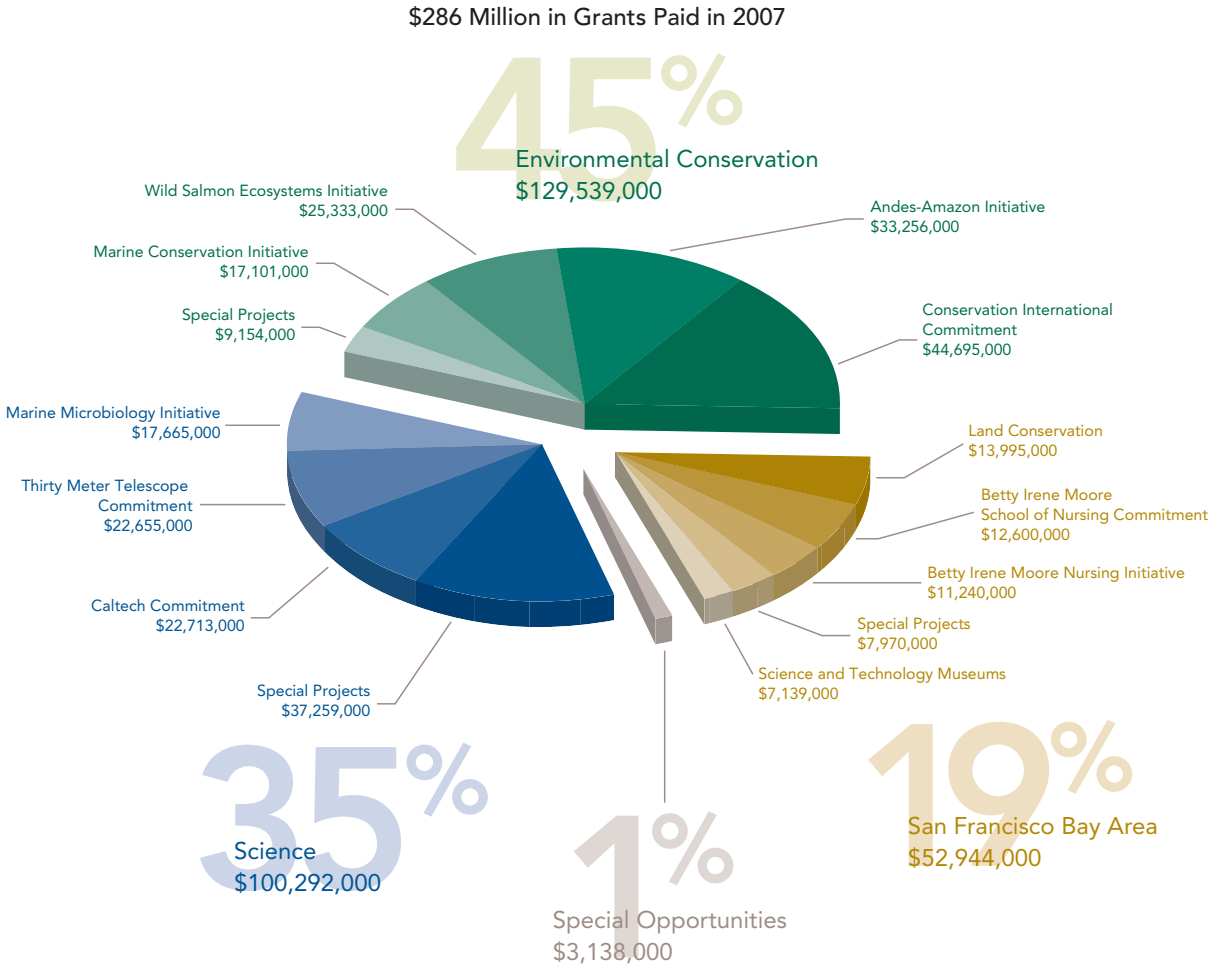
FINANCIAL HIGHLIGHTS

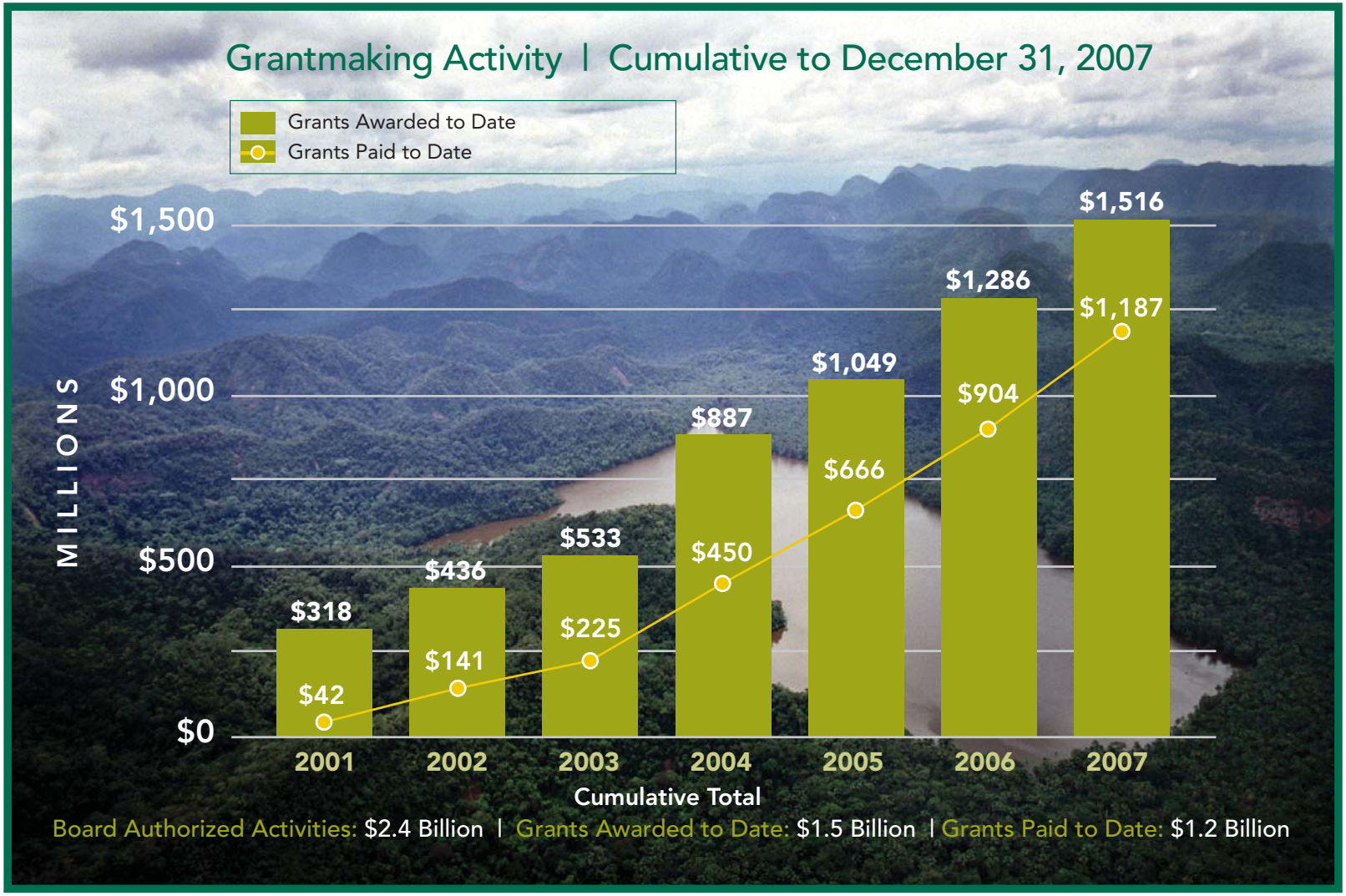
GORDON AND BETTY MOORE FOUNDATION

The Gordon and Betty Moore Foundation's total assets available for grantmaking, consisting primarily of investments grew in fiscal 2007 from $5.8 billion to $6.4 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 2007 the Foundation awarded grants totaling $230 million and paid grants totaling $286 million, bringing total grants awarded and paid since inception to $1.5 billion and $1.2 billion, 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.




Grantmaking Activity | Cumulative to December 31, 2007
Grants Awarded to Date
Grants Paid to Date
MILLIONS
$1,500
$1,000
$500
$0
$318
$436
$533
$887
$1,049
$1,286
$1,516
$42
$141
$225
$450
$666
$904
$1,187
2001
2002
2003
2004
2005
2006
2007
Cumulative Total
Board Authorized Activities: $2.4 Billion | Grants Awarded to Date: $1.5 Billion | Grants Paid to Date: $1.2 Billion

FOUNDATION LEADERSHIP

GORDON AND BETTY MOORE FOUNDATION

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 as a leader in the new semiconductor industry, first as cofounder of Fairchild Semiconductor in 1957 and then as co-founder of Intel Corporation, creator of 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 Moores' 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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Chairman

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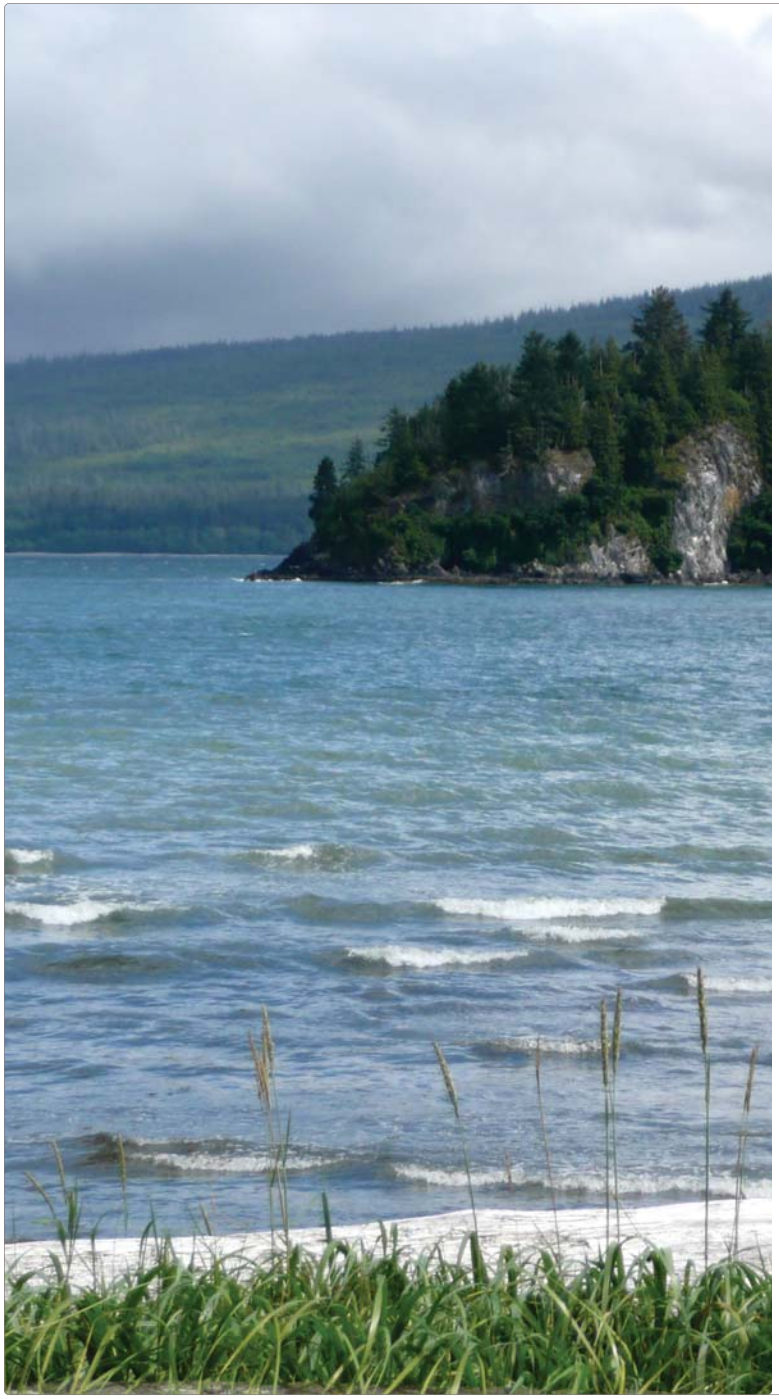

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