Overview

In the past year, our partners yielded exciting new discoveries at the cutting edge of science, improved the way we manage our shared natural resources, enhanced nursing-related patient outcomes, and improved the quality of life—for current and future generations—in the Bay Area and around the world. We thank all of our grantees for their extraordinary work and commitment to driving positive change.

A sampling of 2008 grantee successes within our initiatives and commitments follows.
Environment

ANDES-AMAZON INITIATIVE

LONG-TERM OUTCOME  Maintain the ecological function and representative biodiversity of the Amazon Basin.

Since 2001, the Foundation has supported work in its Andes-Amazon Initiative to increase the size, quality, and durability of the protected area systems of the Basin. More than 90 grants have been awarded, totaling more than $180 million, since the Initiative was launched eight years ago.

2008 Highlights
A sampling of grantee accomplishments in the past year includes the following:


- The Instituto do Homem e Meio Ambiente da Amazonia, Conservation Strategy Fund, and Bank Information Center together advanced protected area and indigenous territory policy in Surinam and Peru.

- Through capacity building efforts, undergraduate and graduate programs offered a total of 64 additional scholarships, technical schools and universities administered a total of 50 additional fellowships, in-region training programs generated more than 130 new park guards, and one new MS program was implemented while three existing programs were strengthened. Grantees include: Instituto Floresta Tropical, Instituto del Bien Común, Amazon Conservation Team, Organization for Tropical Studies, Instituto Internacional de Educação do Brasil, World Wildlife Fund-Education for Nature Program, University of Florida, and Universidad de los Andes.

- Scientists in Brazil, Europe, and the United States—working at the Woods Hole Research Center, Harvard University, Carnegie Institution of Washington, University of Viçosa, University of Oxford, and the University of Arizona—began refining the Initiative’s climate and biodiversity outcomes and underlying assumptions, and improving forest monitoring through a collaborative effort also supported by Google.org, the Packard Foundation, NASA, and the Japanese Space Agency.

Congratulations to all our grantees and their partners on their successes in 2008. Collectively, their contributions have resulted in significant progress towards a durable, healthy, and functioning Amazon Basin, and we thank them for their continued and outstanding efforts.
ENVIRONMENT
MARINE CONSERVATION INITIATIVE
LONG-TERM OUTCOME  Resilient and productive marine ecosystems in North America, managed sustainably for current and future generations.

In 2008, the Marine Conservation Initiative’s grantees made significant gains in fostering resilient and productive marine ecosystems in North America. By advancing area-based management in British Columbia, California, and New England, our grantees helped to plan, create, and maintain working seascapes that continue to provide food, jobs, and recreation without sacrificing ecosystem health. Through fisheries management reform in these regions, our grantees continued their work to align incentives with conservation, helping to achieve lasting protection for these marine ecosystems and the fish populations within them.

2008 Highlights

Area-Based Management
Interest in spatially-explicit integrated ocean management, or Area-Based Management (ABM) is building in Canada and in US states including Hawai, Florida, New York, New Jersey, and Rhode Island. With our grantees’ collective achievements, the tide is turning towards support for area-based management. Examples of demonstrated grantee successes include the following:

- In May 2008, the state of Massachusetts passed the nation’s first comprehensive ocean management and planning bill. The Massachusetts Oceans Act paves the way for the design of a single, inclusive area-based management plan for the state’s marine resources. The University of Massachusetts Boston, a Marine Conservation Initiative grantee, supports the Massachusetts Ocean Partnership, a coalition of stakeholders working to ensure sound integrated marine spatial planning for the state’s ocean resources. Support by the Foundation enabled other grantees and their partners, including Ocean Conservancy, Massachusetts Audubon, and Conservation Law Foundation, to play a critical role in building a supportive constituency for comprehensive planning and zoning for healthy oceans. Successful implementation of area-based management in Massachusetts will be a pioneering model for New England and the rest of the US.

- In British Columbia, Foundation grantees, namely the Coastal First Nations - Turning Point Initiative and Tides Canada Foundation (together with the BC Marine Planning Network), worked to launch an area-based management process through a December 2008 memorandum of understanding between the First Nations and federal government. The MOU formally initiated the Pacific North Coast Integrated Management Area (PNCIMA) integrated spatial planning process.

- Through concerted effort by conservation groups in California, the California Ocean Protection Council identified area-based management as a top priority for 2009-2010. Among these groups, Marine Conservation Initiative grantee Resources Legacy Fund Foundation played a coordination role between the groups, fostering a strategic focus on area-based management.

- Also in 2008, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) drafted a manual containing principles and guidelines for implementing area-based management. Distilled from case studies around the world, the manual is emerging as the leading work on the subject. The manual will be released in 2009 and shared with other Foundation grantees.

Reforming Fisheries Management
The sea change in fisheries management that Marine Conservation Initiative grantees helped bring about began in 2007, and grew into a full-blown movement in support of dedicated access privilege programs or “catch-shares” in 2008. Even groups traditionally opposed to these programs have withheld their opposition once they have understood that Foundation grantees are not advocating a one-size-fits-all approach. Our grantees have begun to change the day-to-day decision-making realities of fishing, giving fishing communities a share of the fish in the sea, reducing harmful impacts from unsustainable fishing, and designing programs that encourage long-term stewardship of resources.
The Gulf of Maine Research Institute, Environmental Defense Fund, and the Cape Cod Commercial Hook Fishermen’s Association yielded substantial progress in fishery sectors, as part of the New England Fishery Management Council’s process for developing a management plan for the multispecies groundfish fishery. In 2008, dedicated access privileges were introduced for consideration in the monkfish management plan.

On the West Coast, the Pacific Fishery Management Council unanimously approved an individual transferable quota (ITQ) system for the Pacific groundfish fishery in 2008, meeting the best practice standards developed by Marine Conservation Initiative grantees Environmental Defense Fund and Natural Resources Defense Council.

The Marine Conservation Biology Institute, together with Living Oceans Society and Ecology Action Centre, produced a landmark first analysis of the ecological impacts of Canada’s fishing gears. That report will inform Canada’s federal government as it works to renew the Fisheries Act and implement related policies in 2009.

We thank all our grantees for their hard work and achievements in 2008. The sum of their efforts has helped transform the way we manage our oceans and chart a clear course towards healthy and productive oceans, for us and for future generations.
In 2008, Wild Salmon Ecosystems Initiative grantees jointly achieved extraordinary results, increasing watershed habitat protection, improving salmon aquaculture and harvest management practices, and working to establish an ecosystem-based management framework to guide conservation and management decision-making.

2008 Highlights
Examples of demonstrated grantee successes in 2008 include the following:

Watershed Habitat Protection

- Working with representatives of the timber, commercial fishing, environmental, and Alaska Native communities, the Alaska Conservation Foundation, Alaska Wilderness League, Southeast Alaska Conservation Council, Audubon Alaska, Trout Unlimited, and The Nature Conservancy helped craft the outline of a potential proposal for resolving long-standing conflicts over land and resource use in the Tongass National Forest. If implemented, the proposal would significantly increase protection for important areas of the Tongass, while also meeting the interests of other regional stakeholders.

- By working to foster decision-making processes that empower communities to make rational choices about potential development projects—providing information about social, economic, and environmental costs and benefits—Foundation grantees helped inform resolutions by First Nations and community leaders calling for an end to coal-bed methane development in the “Sacred Headwaters” region of Northern British Columbia. In response, the British Columbia government legislated a development moratorium in this sensitive habitat area at the birthplace of three major salmon producing rivers, the Skeena, Stikine, and Nass. Pembina Institute, Skeena Watershed Conservation Coalition, Friends of Wild Salmon, ForestEthics, Driftwood Foundation and Tides Canada Foundation all helped create this opportunity to develop improved processes safeguarding the rivers’ physical ability to produce salmon.

Mitigating the Negative Impacts of Salmon Aquaculture

- Responding to unified and forceful opposition from Northern First Nations and communities, British Columbia’s Provincial government announced in 2008 an official moratorium on the expansion of fish farm tenures in the North Coast region. Wild Salmon Ecosystem Initiative grantees, including Friends of Wild Salmon and T Buck Suzuki Foundation, assisted communities to act in a strategically coordinated manner to achieve this important outcome.

Guiding Conservation and Management Decisions

- Efforts by Foundation grantees helped secure independent scientific and economic analyses of the Skeena salmon fishery, with endorsement by the British Columbia provincial and Canadian federal agencies in 2007. In 2008, the resulting reports were released and an associated community-based participant process initiated, thanks to past and continued work by grantees including the Pacific Salmon Foundation, SkeenaWild Conservation Trust and Headwaters Initiative. For key stakeholders and government decision-makers, the reports offer credible and useful guidance for fisheries management.

Congratulations to all our grantees on their important achievements in 2008. Together with other stakeholders across the Northern Pacific Rim, these organizations are playing a critical and collaborative role in ensuring that salmon ecosystems remain healthy and continue to produce abundant and diverse wild salmon.
CONSERVATION INTERNATIONAL COMMITMENT

Since 2001, the Foundation has supported Conservation International in its efforts to protect ecosystems in key geographies around the world through the application of conservation science.

2008 Highlights
In the past year, Conservation International’s accomplishments included the following:

- Through its Global Conservation Fund, endowment funding has been established to help ensure effective long-term biodiversity protection in Colombia, the Eastern Tropical Pacific Seascape and Caucuses.
- The Center for Applied Biodiversity Science supported IUCN Red List processes for endangered species, concluding in the global mammal assessment that nearly 50 percent of the world’s 634 primate species are in danger of extinction. CABS also contributed to Madagascar’s national efforts to refine and implement its national climate change adaptation strategy.
- The Madagascar Action Plan continued its work building climate change resilience by linking climate mitigation and adaptation with protected area creation and management.
- The Marine Management Area Science Program conducted research through more than 40 different activities that have had important impacts in Brazil, Panama, and Fiji.
- Through the Atlantic Forest Action Plan, CI has expanded the regional network of protected areas by 82,500 hectares, advanced the “Pact for Reforestation of the Atlantic Forest” and helped to shape key environmental policies for the biome.
- Conservation International’s work on the Cerrado-Pantanal Action Plan resulted in a newly completed satellite-based monitoring system, the creation of three new protected areas totaling 390,000 hectares, and the launch of the BioCerrado Alliance to engage the private sector in conservation activities.
- The Guiana Shield Action Plan is being implemented and playing a critical role in engaging the Guyana government in the debate over Reduction in Emissions from Deforestation and forest Degradation (REDD). The work is focused on demonstrating the critical link between biodiversity conservation, anthropogenic activity and socio-economic well-being to support the Guiana Region Conservation Corridor (GRCC).
- Tropical Ecosystem Assessment and Monitoring (TEAM) has joined a network of tropical field stations in order to support their monitoring efforts, standardize methods of data collection, and most effectively utilize their information management system and long-term biodiversity trend data.

We congratulate Conservation International on these successes and achievements in 2008.
MARINE MICROBIOLOGY INITIATIVE

LONG-TERM OUTCOME  Marine microbiology is transformed into an integrated field of marine microbial ecology by applying novel molecular technologies and instruments with the goal of monitoring, modeling, and generating new fundamental knowledge about representative microbial ecosystems in the ocean.

Marine Microbiology Initiative grants aim to transform marine microbiology into an integrated field of marine microbial ecology through the application of novel genomic technologies and instrumentation, with the ultimate objective of understanding how microbial communities contribute to ocean health and productivity.

2008 Highlights
In 2008, the Initiative’s grantees built upon prior successes in metagenomics research through direct applications of DNA sequence information, helped to broaden the portfolio into the realm of biogeochemical cycling, and increased high impact science efforts to accelerate the field of marine microbial ecology as a whole. Selected grantee achievements in 2008 include:

- Using a combination of approaches—cell sorting equipment adapted for marine microbiology and next generation DNA sequencing technology—MMI Investigator Dr. Jonathan P. Zehr made the unexpected discovery of an uncultured but abundant marine microorganism that shattered a long-held view that nitrogen fixation by marine microbes is coupled to photosynthesis. The discovery, published in Science (November 2008), raises questions about the evolution of photosynthesis and nitrogen fixation on Earth, two fundamental processes that drive biogeochemical cycles and life on the planet.

- A long-standing “methane enigma” - why the surface ocean is loaded with methane, over and above levels found in the atmosphere, when methane was thought to be produced only in the absence of oxygen - was solved this year by MMI Investigators Dr. David M. Karl and Dr. Ed DeLong. A new pathway for methane production by marine microbes in the presence of oxygen was discovered using genomic approaches, and this discovery was published in Nature Geoscience (June 2008).

- A new phage genome sequencing protocol using small amounts of DNA was developed at the Broad Institute with funding that began in 2005. Broad Institute researchers developed a sequencing, assembly, and annotation pipeline that was used for proof-of-concept studies to produce 20 cyanophage genome sequences. The new validated pipeline will enable a large-scale marine virus sequencing project starting in 2009.

Congratulations to our Marine Microbiology Investigators and other Initiative grantees, whose groundbreaking and multidisciplinary successes in 2008 continue to provide the scientific community with a deeper understanding of how marine microbial ecosystems function and evolve. Taken together, these collective achievements represent a significant first step in creating a predictive understanding of marine microbial ecosystems, and illuminating the biogeochemical processes required for life—and health—on Earth.
Since 2003, the Foundation has committed funding for the collaborative design and creation of the world’s largest ground-based optical/infrared telescope. The Thirty-Meter Telescope (TMT) Project has been led by the California Institute of Technology and University of California.

2008 Highlights
Following the successful completion of the project’s Conceptual Design and Construction Proposal in 2007, the project entered the Preliminary Design phase for most critical TMT sub-systems. In 2008, accomplishments of note include:

- The telescope structure design progressed through Preliminary Design together with partners in Canada. A major external review of the on-site assembly of the structure was held in early 2008 and findings from that review will be incorporated in the design approach.
- The National Optical Astronomy Observatory of Japan (NAOJ) signed a Memorandum of Understanding with TMT stating their intention to collaborate in the TMT Project. NAOJ has initiated design roles in two of the critical TMT instruments and continued to explore other potential contributions.
- The TMT first light adaptive optics system entered its preliminary design phase with collaborators in Canada, and the team completed a successful Optomechanical Preliminary Design Review late in 2008. The challenging tip-tilt stage of one of the structure’s critical mirrors was prototyped in 2008 and passed dynamic performance tests that exceeded required metrics. The TMT External Performance Review favorably reviewed the modeling of the TMT Adaptive Optics system.
- Armazones, Chile and Mauna Kea, Hawaii have been identified as the two leading potential sites for the Thirty-Meter Telescope.

When completed, the telescope will offer basic science an unprecedented glimpse back in space and time, providing clues to the formation of some of the universe’s earliest stars and galaxies. Congratulations to the University of California, Caltech, and their partners for their continued progress on the innovative TMT Project.
CALIFORNIA INSTITUTE OF TECHNOLOGY COMMITMENT

Since 2001, the Foundation has supported the California Institute of Technology to maintain its position at the forefront of higher education and scientific research and to help foster exciting, transformative discoveries for the future.

2008 Highlights
Again in 2008, the projects and research funded by the Foundation at Caltech have been defined by their remarkable innovation and consistently high productivity levels. Some of the extraordinary accomplishments in 2008 include the following:

- Using the Molecular Observatory for Structural Molecular Biology, David Chenoweth, a graduate student in Peter Dervan’s group solved a remarkable set of ~1 Å resolution structures of DNA-polyamide complexes that define molecular details at true atomic resolution.

- At the Physical Biology Center for Ultrafast Science and Technology, Barwick, Park, Kwon, Baskin, and Zewail (Science, 21 November 2008; Nano Letters, 11 November 2008) showed the first ever 4D images obtained with ultrafast electron microscopy for gold and graphite samples, demonstrating their structure, morphology, and function. With femtometer resolution, the scientists created “movies” showing that graphite produces coherent sound waves (“nanodrumming”) on the scale of tens of picoseconds.

- Through a research project to investigate the Neurobiological Foundations of Reward, Drenan et al. (Neuron 2008) genetically modified a receptor in mice that normally produces dopamine so that it became ultra-sensitive to nicotine and acetylcholine. When sensitized receptors were exposed to either neurotransmitter, they unleashed a torrent of dopamine, similar to ADHD responses. Future research will address drugs that can slow or stop the heightened dopamine production, and perhaps aid in the treatment of dopamine-related conditions, such as ADHD, Parkinson’s disease, schizophrenia, and addictive behaviors.

We thank Caltech for its continued and outstanding contributions to science and technology in 2008.
SAN FRANCISCO BAY AREA

BETTY IRENE MOORE NURSING INITIATIVE

LONG-TERM OUTCOME  Improvement in nursing-related patient outcomes in adult acute care hospitals.

From the time that the Foundation’s Board of Trustees approved the Betty Irene Moore Nursing Initiative in late 2003, over 90 grants have been awarded to organizations working 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). Altogether, these grants have totaled more than $90 million.

2008 Highlights:
In 2008, Betty Irene Moore Nursing Initiative grantees significantly increased the Registered Nurse (RN) workforce in the region, alleviated barriers to educational expansion, and improved nursing-related patient outcomes for adult acute care hospital patients. Among the most significant achievements of 2008 were the following:

Developing a larger, more highly skilled RN workforce

- Through Foundation-supported pre-licensure nursing programs at City College of San Francisco (in collaboration with California Pacific Medical Center), Ohlone College (in collaboration with Washington Hospital), Samuel Merritt College, San Jose State University, and the University of San Francisco, 292 new RNs (or a cumulative 558 new RNs) are providing care at the bedside in 2008.
- To address the nursing faculty shortage, the Foundation’s grantees (the University of California, San Francisco, Dominican University, and Holy Names University) graduated 29 new Ph.D. and MSN-level faculty in 2008. In addition, 38 new clinical faculty were developed in the SFBA in 2008 through programs led by the California Institute for Nursing & Health Care. To date, the Foundation’s grantees have graduated 101 new Ph.D. and MSN-level faculty members and 60 new clinical faculty.

Implementing more effective hospital practices

- With funding from the Betty Irene Moore Nursing Initiative, the Hospital Council of Northern and Central California and the Center for Quality Systems Performance have organized Beacon, the Bay Area Patient Safety Collaborative, to support San Francisco Bay Area adult acute care hospitals in working together to improve hospital care processes. In 2008, through Beacon’s convening, education, and on-site support to hospitals, membership rose to 39 actively participating hospitals and 92% of member hospitals demonstrated significant improvement in patient outcomes This included 34 member hospitals demonstrating reduction in central-line bloodstream infections and 32 member hospitals demonstrating a reduction in ventilator-acquired pneumonia, two serious healthcare infections.
- Sutter Health’s Partners Advancing Clinical Excellence (PACE) Nurse-led Councils demonstrated improvements in patient outcomes in 2008, with Sutter Health San Francisco Bay Area affiliates reporting significant reductions in preventable complications and mortality rates. Participating hospitals are Alta Bates Summit Medical Center, Eden/San Leandro Medical Center, California Pacific Medical Center, St. Luke’s Hospital, Marin General Hospital, Mills-Peninsula Hospital, and Novato Community Hospital. The results included marked declines against a 2006 baseline in ventilator-acquired pneumonia, central-line bloodstream infection, heart attack mortality, and severe sepsis mortality.

Our grantees’ continued efforts are expanding the highly trained RN workforce and advancing safer and more effective hospital practices. We thank all our grantees and their partners for their remarkable accomplishments in 2008.
The Betty Irene Moore School of Nursing at the University of California, Davis, established in 2007 [Ginny, in 2007, GBMF announced the commitment to UCD to launch the school of nursing; the UC board of regents approved the school and named it the Betty Irene Moore School of Nursing only last month. I leave it to you as how to phrase these facts.], aims to foster nursing excellence through a comprehensive educational model that incorporates scientific rigor and immersive, inter-professional education for its students. The school will provide a comprehensive educational opportunity that couples academic rigor common to both nursing and medicine, with interdisciplinary educational opportunities in basic sciences, humanities, public health, business administration, and information technology.

2008 Highlights

- University of California (UC) Board of Regents approved the appointment of Heather M. Young, Ph.D., RN, GNP, FAAN, a nurse leader, educator and scientist from the Oregon Health and Science University School of Nursing, as Associate Vice Chancellor for Nursing at UC Davis. She and her team worked to gain necessary approvals from the UC Davis and UC Regents for the creation of the school, recruitment and development of faculty, along with completing an implementation plan for matriculating students and fund raising.

- Renowned nursing leaders from across the nation met in September 2008 to participate in an inaugural strategic design summit on the future of nursing and to help create the new school of nursing at UC Davis Health System. [Ginny, please decide which one of the different terms to use in this document: University of California, Davis, or UCD, or UC Davis Health System, and revise to one term for the entire document. The BIMSON website by UCD describes itself as “The Betty Irene Moore School of Nursing at the University of California, Davis”] Key areas of discussion from the summit included nursing trends now and during the next 20 years, curriculum priorities for the proposed Betty Irene Moore School of Nursing, areas of research to develop and how to identify and recruit faculty to develop this agenda.

The Betty Irene Moore School of Nursing at UC Davis anticipates admitting its first students in master and doctorate programs in the Fall of 2010. For more information, go to www.ucdmc.ucdavis.edu/nursing.
Financial Highlights

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.

The Foundation has grown rapidly from its establishment in 2000 and currently employs more than 75 people, manages almost $5 billion of assets, and has an annual operating budget of approximately $25 million. The Foundation intends to pay out at least five percent of its endowment annually, which equates to an annual grant budget of approximately $225 million.

Grantmaking Activity
Cumulative to December 31, 2008

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OUR FOUNDERS

Gordon and Betty Moore

A rule-of-thumb prediction made by Gordon Moore in 1965, later dubbed “Moore’s Law,” became a guiding principle for the delivery of ever more powerful semiconductor chips at proportionally lower costs. Today, this standard continues to set the pace of technology development and progress. Gordon has been committed to technological progress throughout his career 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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