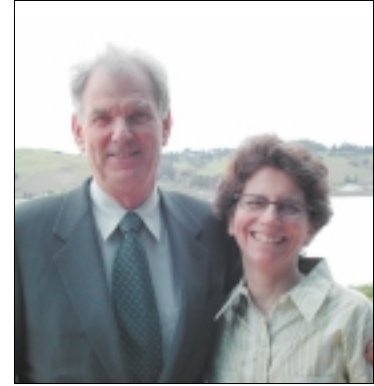


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PRBO Conservation Science



2005 Annual Report



Addressing Global Ecological Challenges

July, 2006

The need for conservation leadership grounded in sound science is greater today than at any other time in human history.

The United Nation's Millennium Ecosystem Assessment (2005), the leading scientific consensus report on the state of the world's environment, concluded that we humans have severely degraded natural ecosystems and the services they provide for our survival, including clean water, food, wood, pollination, fisheries, and the regulation of climate and disease.

The need to evaluate and mitigate the impact of these global changes on birds and ecosystems is ever-growing. In response, PRBO has quadrupled in size over the past decade. Our 2005 operations budget was almost \$6 million, supporting 180 staff and seasonal biologists.

As this 2005 Annual Report highlights, PRBO continues to play a leadership role in addressing some of the most pressing issues of our time, regionally, nationally and internationally.

In Alaska, we co-lead a multinational partnership to monitor shorebird migration and document the spread of avian influenza. Our long-term collaborative research on Adélie Penguins in Antarctica was recently recognized by the National Science Foundation with a major five-year grant to study food web responses to changing ecological conditions.

In the ocean realm, we are developing science-based decision tools to help sustain commercial fisheries, using seabirds as indicators of real-time climate variability. We are advancing wetland conservation by providing public and private managers with habitat characteristics required by shorebirds and waterfowl that traverse the hemisphere. Similarly, our riparian restoration guidelines are resulting in significant benefits to threatened songbirds and salmon, while also providing cleaner water and flood protection—enhancing ecosystem services, conserving biodiversity and serving our communities!

PRBO continues to inspire and train students of all ages, many of whom will become the conservation leaders of tomorrow in academia, natural resource agencies and even their countries. We are exporting cutting-edge methods through our Birds Across Borders program, training locally-based biologists, park guards and volunteers to improve conservation in Mexico, Central America, the Caribbean and beyond.

To more effectively address global ecological challenges—from the loss of habitat and biodiversity to climate change and the spread of infectious diseases—we embarked on a new strategic planning process with the pro bono Alumni Consulting Team of Stanford University's Graduate School of Business. The found-

ation for this expansion is our new 20,000 square foot **San Francisco Bay Research Center**, a state-of-the-art hub for PRBO's research, training and outreach, which we took ownership of in October, 2005.

As we embark on the next stage of our journey to bring our award-winning science to bear on the great conservation challenges of our day, we are ever grateful to you—PRBO's extraordinary staff and Board of Directors, dedicated volunteers, generous members and funders, and hundreds of partners—for making our urgently needed work possible.

Ellie M. Cohen
Executive Director

Steve Thal
Chair, Board of Directors

“PRBO Conservation Science is...leading the way by educating us on the best way to conserve bird species and their habitats.”

U.S. Senator Barbara Boxer, in recognizing PRBO's achievements with her 2006 Conservation Champion Award.

2005 Accomplishments



Krill—a major prey base for seabirds, fish and marine mammals. Ben Saenz/PRBO photo

Marine Food Web Collapse. An ocean anomaly off the Pacific coast, observed by PRBO, drew nationwide media attention in summer 2005. Biologists on Southeast Farallon Island detected an early signal—a breeding failure of Cassin's Auklets unprecedented in our 35 years of study. Few auklets attempted to nest; of those that did, almost 95% (more than 300 birds) abandoned their eggs in May. At the same time, PRBO scientists found that normally abundant krill were absent from ocean trawls and salmon diets. Krill, the auklet's main food, are fundamental to the marine ecosystem. Small fish that eat krill were likewise scarce, and their seabird predators went hungry: unusually high numbers of murre and cormorants washed up on

California beaches. In other years, high productivity in the California Current stems from cold-water upwelling. In 2005, sea surface temperatures in March and May were as much as 1.7°C (3°F) higher than average—even though this “year without krill” was not an El Niño (warm-water) event. Questions persist as to whether these findings warn of global warming impacts.

Vireo's Recovery. The surprising return of a California threatened species thrilled conservationists and drew a media spotlight. For many decades the Least Bell's Vireo went missing from the Great Central Valley, along with most of its breeding habitat. In



A nest full of Least Bell's Vireo chicks in the San Joaquin Valley—a 2005 conservation milestone. Linette Lina photo

“PRBO’s Bird Conservation Plans for California are state of the art. The scientific content, organization, and thoroughness set the standard for the rest of North America.”

Terry Rich, Partners in Flight National Coordinator, U.S. Fish and Wildlife Service



Monitoring radio-tagged shorebirds to understand migration. Bob Gill photo

2005, PRBO biologists discovered a vireo pair successfully nesting near the San Joaquin River—on a site undergoing riparian restoration in accord with PRBO recommendations. Our science is helping reverse a century of habitat loss throughout the West.

Major Milestone. In 2005, PRBO embarked on a new chapter in our history. We celebrated 40 years of achievements and took ownership of our new 20,000-square-foot, state-of-the-art research center in Petaluma, California. With high-speed wireless Internet, advanced computer systems, work space for visiting scientists and interns, a public visitor’s area, and a

front door that opens to 500 acres of protected wetlands at the northernmost reaches of the San Francisco Bay Estuary, PRBO is poised to meet the global ecological challenges of the 21st century.

Shorebirds Traveling. PRBO joined a multinational research team based at Alaska’s Yukon-Kuskokwim River Delta, a vast staging area for waterbirds. The goal is to better document shorebirds’ migration patterns and enhance conservation efforts. The project includes sampling blood and DNA to obtain data valuable for understanding the spread of avian influenza. PRBO used radio telemetry to chart southbound routes used by two subspecies of Dunlin—toward Asia or down the Pacific coast of North America.

Penguins Evolving. PRBO research in Antarctica documented genetic change over just a few thousand years in populations of Adélie Penguin. Analyses reveal a shift in DNA between birds alive today and 6,000-year-old tissue samples preserved in the cold dry climate. Change in the frequencies of genes—“micro-evolution”—has never previously been demonstrated over such a short time span. We also found that relatively rare cataclysmic events, like the splitting of giant icebergs, may cause penguins to move to new breeding locations,

spreading their genes far wider than previously imagined. These insights into how evolution works in the present world hold implications for the conservation of genetic diversity, crucial to ecosystem services that are essential to our survival.

Hemispheric Outreach. From the lowland forests of Mexico to the high slopes of the Andes, PRBO supports the conservation work of Latin American partners. In Ecuador, we trained land stewards at Cajas National Park to monitor birds, helped design ongoing research, and sponsored a visiting student (one of three Latin



Adélie Penguin studies yield insights important for biodiversity conservation. Viola Toniola/PRBO photo

“PRBO has distinguished itself as a leader in conducting important, applied science to benefit birds. They excel in making information relevant for managers, who can then use it to improve habitat for birds and other wildlife.”

Peter Stangel, PhD, Southern Region Director, National Fish and Wildlife Foundation



In a new Latin America partnership, PRBO supports the work of Ecuadorian conservationists.

Photo courtesy of Boris Tinoco

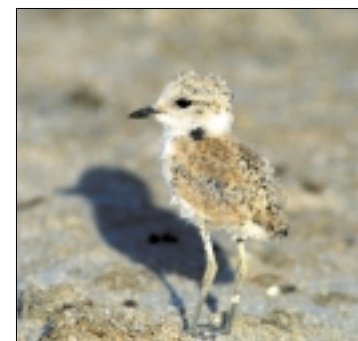
American interns at our Palomarin Field Station). Mexico's national park system added five official bird monitoring sites to a growing bird conservation network that PRBO helped establish.

Waterbirds Flood Agricultural Lands. In September 2005, 40,000 migrating and overwintering shorebirds, almost one-third of the average number found in the entire Central Valley, flocked into temporarily flooded cotton fields in California's southern San Joaquin Valley. PRBO and

California Department of Fish and Game worked closely with landowners in the Tulare Basin, a historic wetland, to implement inexpensive measures to benefit migratory waterbirds by recreating critical seasonal habitat.

Riparian Restoration Success. A landmark PRBO study summarizing 11 years of riparian restoration monitoring in California's Sacramento River Valley shows that diversity and numbers of breeding songbirds increasing at restored sites. Yellow Warblers, Song Sparrows and many other species clearly benefit from such efforts. Our major analysis of this long-term data set indicates the real potential for successful restoration of riparian habitat—critical for songbirds, fish and other wildlife.

Plovers Rebounding. PRBO collaborative efforts to reverse the decline of federally threatened Western Snowy Plovers paid dividends. In the Monterey Bay area, enough chicks fledged in 2005 to meet recovery goals for the entire California Central Coast region. The nearby Moss Landing Salt Ponds, which we help manage, now serve as one of the plover's most productive breeding sites. PRBO provided expert input to the Endangered Species Act Critical Habitat Designation for this population, aiming for an effective strategy



A Snowy Plover chick, the product of successful efforts on behalf of a threatened species. H.&J. Eriksen/VIREO

to protect Snowy Plovers and coastal dune habitat throughout their range.

Bringing Birds Back. Regional landowners now have a practical, hands-on guide to restoration, using birds as indicators. PRBO and California Partners in Flight produced “Bringing the Birds Back: A Guide to Habitat Enhancement in Riparian and Oak Woodlands for the North Bay Region,” available free for download at www.prbo.org.

Ocean Ecosystem Protection. PRBO played a lead role in winning, in early 2006, a proactive ban on commercial fishing for krill along the West Coast. This unprecedented protection for a vital driver of the

“PRBO plays an important role in promoting bird monitoring activities in Mexico’s National System of Natural Protected Areas.”

Eduardo Santana, Researcher at the University of Guadalajara’s Manantlán Institute of Ecology and Conservation of Biodiversity

marine food web resulted from four years of cooperative effort. Our ongoing at-sea research is building the scientific basis for a network of Marine Protected Areas to conserve seabirds, marine mammals and fisheries dependent on the rich California Central Coast marine food web.

Fishing for Marine Conservation. PRBO worked with fishers between Monterey and Bodega Bay, using their boats as research platforms. We studied the diet of salmon, halibut and lingcod, which, like seabirds, feed on juvenile rockfish. Small rockfish are critical to ecosystem health (and to the fishers’ economic viability) but difficult to



Biodiversity near the Farallon Islands and elsewhere in the California Current may merit conservation in new marine protected areas. Sarah Acosta/PRBOphoto

sample. We found that rockfish were all but absent from predators’ diets in spring-summer 2005, the same period when seabird productivity declined on the Farallones and other colonies. This may have been due to warm waters and a shortage of krill, a key food source for rockfish.

Understanding Fire Ecology. In the increasingly threatened sagebrush habitats of the Great Basin, we provided new guidelines for managing huge tracts of land to benefit wildlife, based on our studies of birds’ responses to fire. As the need grows for a balance between wildlands’ well-being and that of human communities, PRBO findings contribute to a sound scientific framework for decision-making.

Lagoon Food Web Change. PRBO continued a three-decade-long study of migratory shorebirds and waterfowl on Bolinas Lagoon, a prized coastal estuary in Marin County, California. Sedimentation has dramatically enlarged the lagoon’s tidal mudflats, a primary feeding habitat for shorebirds. We sampled the mudflats for invertebrates such as mollusks and worms and, compared with data we collected 30 years ago, found a once-abundant species now absent. Our ongoing research aims to understand how such change may impact bird populations.



Pacific Slope Flycatcher—among the birds that PRBO monitors to evaluate habitat restoration. David Gardner photo

Conservation on Private Lands. With two-thirds of California’s land in private ownership, PRBO is increasingly called upon to guide private-lands managers in their effort to manage for biodiversity, through bird population monitoring. We evaluated restoration and enhancement efforts on more than 60 private properties in the Central Valley and east of the Sierra Nevada, working with federal and state private-lands habitat incentive programs as well as with private landowners.

Mystery Oil Spill. PRBO documented wildlife impacts caused by floating oil slicks that appeared off the Southern California coast in winter 2005. Western Grebes were

“PRBO is there to ask the difficult questions and deliver data and management recommendations for conservation of bird species on BLM lands in California.”

James F. Weigand, Ecologist, Bureau of Land Management



Western Grebe—vulnerable to an oil spill's impacts.
Peter LaTourrette/www.birdphotography.com

foremost among the seabirds affected. As an on-call member of California's oil spill response team, PRBO collects data to provide a legal basis for reducing oil pollution at sea and winning mitigation funds for ocean habitat restoration.

Community Outreach. Continuing a commitment to students in underserved communities, PRBO educators taught innovative lessons about birds and habitats in Bayview-Hunter's Point (San Francisco) and the Canal District (San Rafael). Students from Roosevelt High School (Los Angeles) interacted with PRBO biologists at our banding stations in the Eastern Sierra. PRBO staff and interns taught hundreds of

school children and park visitors about bird monitoring at our Palomarin Field Station in Point Reyes National Seashore.

Leadership Appointments. Catherine Hickey to the U.S. NABCI (North American Bird Conservation Initiative) Committee. Steven Latta, PhD, as Chair of the Monitoring Working Group of the Society for the Study and Conservation of Caribbean Birds. Bill Sydeman, PhD, to the Science Advisory Team for California's Marine Life Protection Act.

Affiliations. Organizations in which PRBO is an invited member include: American Bird Conservancy, Bay-Delta Science Consortium, Bolinas Lagoon Technical Advisory Committee, California Association of Winegrape Growers, Canada-U.S. Shorebird Monitoring and Assessment Committee, Central Valley Bird Club, Central Valley Joint Venture, Cosumnes Research Group, County of Marin Wind Energy Advisory Group, Intermountain West Joint Venture—California Steering Committee, Laguna de Santa Rosa Biodiversity Advisory Committee, Mono Basin Science Council, Mono Lake Outdoor Education Center Advisory Board, North American Banding Council, North American Bird Conservation Initiative—U.S. Committee, Oiled Wildlife Care

Network, Pacific Coast Ocean Observing System (NOAA), Pacific Coast Joint Venture, Partners in Flight, Riparian Habitat Joint Venture, Sacramento River Riparian Sanctuary Technical Advisory Committee, San Francisco Bay Joint Venture, San Francisco Bay Upland Habitat Goals Steering Committee, San Francisco Bay Wetlands Regional Monitoring Program, Shorebird Research Group of the Americas, Sierra Nevada Willow Flycatcher Working Group, Sonoran Joint Venture, Swainson's Hawk Technical Advisory Committee, Tomales Bay Watershed Council, Tricolored Blackbird Working Group, U.S. Shorebird Conservation Council, Waterbirds of the Americas, Western Bird Banding Association.



Collecting field data to guide management decisions. PRBO photo

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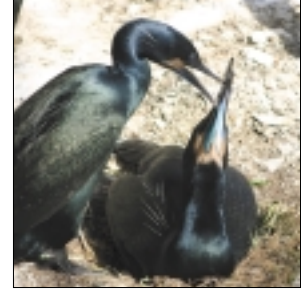
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2005 Selected Publications

- Ainley, D.G., G. Ballard, B.J. Karl & K.M. Dugger. Leopard seal predation rates at penguin colonies of different size. *Antarctic Science* 17:335-340.
- Ballard, G. & D.G. Ainley. Killer whale harassment of Adélie Penguins at Ross Island. *Antarctic Science* 17:385-386.
- Bishop, M.A., N. Warnock & J.Y. Takekawa. Differential spring migration by male and female Western Sandpipers at interior and coastal stopover sites. *Ardea* 92:185-196.
- Chase, M.K., N. Nur & G.R. Geupel. Effects of weather and population density on reproductive success and population dynamics in a Song Sparrow (*Melospiza melodia*) population: A long term study. *Auk* 122: 571-592.
- Chessey, A. & K. Dybala. Hutton's Vireo: Longevity record and interesting movement. *North American Bird Bander* 30:27.
- Gardali, T., G.R. Geupel, A.L. Homes & S.L. Small. After the Vision fire: Monitoring landbirds in the riparian zone. *In: Vision Fire: Lessons learned from the October 1995 fire*. Point Reyes National Seashore.
- Gardali, T., S.L. Small, N. Nur, G.R. Geupel, G. Ballard & A.L. Holmes. Monitoring songbirds on the Sacramento Valley (1993-2003): Population health, management information, and restoration evaluation. Final report to The Nature Conservancy, U.S. Fish & Wildlife Service, River Partners.
- Knick, S.T., A.L. Holmes & R.F. Miller. The role of fire in structuring sagebrush habitats and bird communities. *Studies in Avian Biology* 30:63-75.
- Latta S.C. Complementary areas for conserving avian diversity on Hispaniola. *Animal Conservation* 8:69-81.
- Latta, S.C., C.J. Ralph & G.R. Geupel. Strategies for the conservation monitoring of permanent resident landbirds and wintering Neotropical migrants in the Americas. *Ornitología Neotropical* 16:163-174.
- Nur, N., M. Herzog, T. Gaines & L. Liu. Filling data gaps to improve planning and monitoring: A pilot project to assess impacts of tidal marsh restoration and seasonal wetland enhancement projects on bird populations in Suisun Marsh. Report to Bay Delta Science Consortium and Association of Bay Area Governments.
- Page, G.W., J.C. Warriner, J.S. Warriner, C. Eyster, K. Neuman, R. DiGaudio, J. Erbes & M. Mitchell. Nesting of the Snowy Plover at Monterey Bay and beaches of northern Santa Cruz County, California in 2005. PRBO report.
- In* Ralph, C.J. & T.D. Rich (editors). Bird conservation implementation and integration in the Americas: Proceedings of the third international Partners in Flight conference 2002. Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture.
- Burnett, R.D., T. Gardali & G.R. Geupel. Using songbird monitoring to guide and evaluate riparian restoration in salmonid focused stream rehabilitation projects.
- Chase, M.K., G. Ballard, T. Gardali, G.R. Geupel, A.L. Holmes & N. Nur. Two decades of change in a coastal scrub community: Songbird responses to plant succession.
- Holmes, A.L. & G.R. Geupel. Effects of trail width on the densities of four species of breeding birds in chaparral.
- Spautz, H., N. Nur & D. Stralberg. Distribution and abundance of California Black Rails in the San Francisco Bay region in relation to habitat and landscape characteristics.
- Stralberg, D., N. Warnock, N. Nur, H. Spautz & G.W. Page. Building a habitat conversion model for San Francisco bay wetlands: A multi-species approach for integrating GIS and field data.
- Ricklefs, R.E., S.M. Fallon, S.C. Latta, B.L. Swanson & E. Bermingham. Migrants and their parasites: A bridge between two worlds. *In* R. Greenberg & P. Marra (editors). *Birds of two worlds: The ecology and evolution of migratory birds*. Johns Hopkins University Press, Baltimore and London.
- Ricklefs, R.E., B. Swanson, S.M. Fallon, A. Martinez, A. Scheuerlein, J. Gray & S.C. Latta. Community relationships of avian malaria parasites in southern Missouri. *Ecological Monographs* 75:543-559.
- Samuels, I.A., T. Gardali, D.L. Humple & G.R. Geupel. Winter site fidelity and body condition of three riparian songbird species following a fire. *Western North American Naturalist* 65:45-52.
- Shepherd, L.D., C.D. Millar, G. Ballard, D.G. Ainley, P.R. Wilson, G.D. Haynes, C. Baroni & D.M. Lambert. Microevolution and mega-icebergs in the Antarctic. *Proceedings of the National Academy of Sciences* 102:16717-16722.
- Shuford, W. D. Familiar faces and female foresight: Brief reflections on history of field ornithology in California. *Birding* 37:38-42.
- Shuford, W.D. Historic and current status of breeding American White Pelicans in California. *Waterbirds* 28:35-47.
- Small, S.L. Mortality factors and predators of Spotted Towhee nests in the Sacramento Valley, California. *Journal of Field Ornithology* 76:252-258.
- Warnock, N. Synthesis of scientific knowledge for managing salt ponds to protect bird populations. Technical report of the South Bay Salt Pond Restoration Project. State Coastal Conservancy.
- Warnock, N., M.A. Bishop & J.Y. Takekawa. Spring migration of Western Sandpipers, Dunlins, and dowitchers in western North America. *Birding* 37:392-399.
- White, J.D., T. Gardali, F.R. Thompson & J. Faaborg. Resource selection by juvenile Swainson's Thrushes during the post fledging period. *Condor* 107:388-401.
- Yen, P.W., W.J. Sydeman, K.H. Morgan & F.A. Whitney. Top predator distribution and abundance across the eastern Gulf of Alaska: Temporal variability and ocean habitat associations. *Deep-Sea Research II* 52: 799-822.

Front cover: The Yellow Warbler is among the songbirds regaining habitat in California's Central Valley, thanks to restoration projects guided by PRBO science.

Arthur Morris/VIREO

2005 Financials

Statement of Financial Position as of December 31, 2005 With Comparative Totals for the Year Ended December 31, 2004

	2005	2004
Assets		
Current Assets:		
Cash & cash equivalents	\$1,035,652	\$ 964,707
Marketable securities	1,734	1,118
Accounts receivables	1,178,204	1,342,419
Unconditional promises to give	35,906	7,000
Prepaid expenses & other current assets	41,775	29,383
Total current assets	<u>2,293,271</u>	<u>2,344,627</u>
Non-current assets:		
Marketable securities – restricted	110,663	108,416
Long term conditional promises to give, net of discount	21,938	-
Fixed assets, net of accumulated depreciation	4,713,043	1,129,684
Total non-current assets	<u>4,845,644</u>	<u>1,238,100</u>
Total assets	<u>\$7,138,915</u>	<u>\$3,582,727</u>
Liabilities & Net Assets		
Current liabilities:		
Accounts payable	\$ 71,111	\$ 39,426
Accrued vacation	175,286	136,760
Current portion of capital lease payable	9,588	9,588
Current portion of note payable	1,344,850	-
Total current liabilities	<u>1,600,835</u>	<u>185,774</u>
Long term portion of capital lease payable	1,994	11,582
Total liabilities	<u>1,602,829</u>	<u>197,356</u>
Net assets		
Unrestricted	3,169,505	917,965
Temporarily restricted	2,255,918	2,357,990
Permanently restricted	110,663	109,416
Total net assets	<u>5,536,086</u>	<u>3,385,371</u>
Total liabilities & net assets	<u>\$7,138,915</u>	<u>\$3,582,727</u>

Statement of Activities for the Year Ended December 31, 2005 With Comparative Totals for the Year Ended December 31, 2004

	Unrestricted	Temporarily Restricted	Permanently Restricted	2005 Total	2004 Total
Revenue:					
Contracts	\$ 3,969,252	\$ 93,347	-	\$4,067,599	\$3,607,371
Foundation & corporate grants	152,579	2,053,530	-	2,206,109	1,311,710
Contributions from individuals	364,727	1,548,549	-	1,949,276	857,342
Investment income	-	-	6,989	6,989	6,290
Other income	43,969	1,386	-	45,355	103,859
Net assets released from restrictions	3,845,626	(3,839,884)	(5,742)	-	-
Total Revenue	<u>8,376,153</u>	<u>(102,072)</u>	<u>1,247</u>	<u>8,275,328</u>	<u>5,886,572</u>
Expenses:					
Program services:					
Wetlands research	1,346,112	-	-	1,346,112	1,247,286
Terrestrial research	1,551,458	-	-	1,551,458	1,466,530
Marine research	1,170,253	-	-	1,170,253	923,643
Population ecology	21,318	-	-	21,318	20,133
Education/outreach	166,727	-	-	166,727	203,038
Science policy	355,439	-	-	355,439	262,051
Total program services	<u>4,611,307</u>	<u>-</u>	<u>-</u>	<u>4,611,307</u>	<u>4,122,681</u>
Supporting services:					
Development	296,446	-	-	296,446	285,514
Management & general	1,216,860	-	-	1,216,860	1,060,419
Total supporting services	<u>1,513,306</u>	<u>-</u>	<u>-</u>	<u>1,513,306</u>	<u>1,345,933</u>
Total Expenses	<u>6,124,613</u>	<u>-</u>	<u>-</u>	<u>6,124,613</u>	<u>5,468,614</u>
Change in net assets	2,251,540	(102,072)	1,247	2,150,715	417,958
Net assets, beginning of period	917,965	2,357,990	109,416	3,385,371	2,967,413
Net assets, end of period	<u>\$3,169,505</u>	<u>\$2,255,918</u>	<u>\$110,663</u>	<u>\$5,536,086</u>	<u>\$3,385,371</u>

Board of Directors, Point Reyes Bird Observatory *dba* PRBO Conservation Science

We have audited, in accordance with U.S. generally accepted auditing standards, the statement of net assets of Point Reyes Bird Observatory *dba* PRBO Conservation Science as of December 31, 2005, and the related statements of activities and cash flows (not presented herein) for the year then ended; and in our report dated April 25, 2006, we expressed an unqualified opinion on those financial statements. Condensed financial statements include only summarized statements of financial position and activities, but omit substantially all of the

disclosures required by U.S. generally accepted accounting principles. Users of condensed financial statements should read the separately issued and available financial statements of Point Reyes Bird Observatory *dba* PRBO Conservation Science to obtain a complete understanding of such disclosures. (For complete financial statements contact Point Reyes Bird Observatory *dba* PRBO Conservation Science directly.) In our opinion, the information set forth in the accompanying condensed financial statements is fairly presented in all material respects in relation to the financial statements from which it has been derived.

R.J. Ricciardi, Inc.
R. J. Ricciardi, Inc.
Certified Public Accountants
San Rafael, California
April 25, 2006



PRBO Conservation Science



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