

Dr. GRANT BALLARD

Chief Science Officer

Point Blue Conservation Science

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SYNOPSIS

Chief Science Officer at Point Blue Conservation Science (formerly Point Reyes Bird Observatory), responsible for shaping and growing Point Blue's multi-investigator scientific research and conservation programs, overseeing ~80 staff scientists. Research interests include the effects of landscape-scale environmental stressors on ecosystems in western North America and the Southern Ocean. Practicing ecologist with fieldwork since 1991 in California, Alaska, and Antarctica. Ecological informatics specialist, founder and lead designer for several major informatics projects, including the California Avian Data Center.

EDUCATION

- BA, Cornell University, Ithaca NY. (1989): English (Writing)
- PhD, University of Auckland, Auckland, NZ. (2010): Biological Sciences (Ecology, Evolution and Behavior)

APPOINTMENTS

September 2012 – *Chief Science Officer*. Point Blue Conservation Science (formerly PRBO). Petaluma, California.

April 2011 – September 2012: *Director, Climate Change and Informatics Group* and (from Feb. 2012) *Acting Director, San Francisco Bay Group*. PRBO Conservation Science. Petaluma, California.

2007 – 2011: *Informatics Division Director, Antarctic Program Leader*. PRBO Conservation Science. Petaluma, California.

1994 – 2006: *Senior Biologist, Data Manager & Analyst*. Point Reyes Bird Observatory. Stinson Beach, California.

1992 – 1997: *Field Supervisor, Upper Sacramento River Project*. Point Reyes Bird Observatory. Stinson Beach, California.

SELECTED CURRENT AND RECENT PROJECTS

2016-2020: (co-PI) A Full Lifecycle Approach to Understanding Adélie Penguin Response to Changing Ice Conditions in the Ross Sea. Funded by National Science Foundation. (www.penguinscience.com)

2010-2015: (co-PI) Adélie penguin response to climate change at the individual, colony and metapopulation levels. Funded by National Science Foundation. (www.penguinscience.com)

2010-2014: (co-PI) Our Coast-Our Future: Planning for sea level rise and storm hazards in the San Francisco Bay Area. Funded by National Oceanic & Atmospheric Administration & National Estuarine Research Reserve System Science Collaborative. (www.pointblue.org/ocof)

2010-2013: (PI) How do we monitor the ecological consequences of climate change? Developing an Environmental Change Network in the California Landscape Conservation Cooperative. Funded by United States Fish & Wildlife Service/California Landscape Conservation Cooperative. (www.pointblue.org/ecn)

- 2011-2012: (co-PI) The California Climate Commons. Funded by United States Fish & Wildlife Service/California Landscape Conservation Cooperative. (climate.calcommons.org)
- 2010-2012: (PI) Tidal Marsh Bird Population and Habitat Assessment for San Francisco Bay Under Future Climate Change Conditions. Funded by United States Fish & Wildlife Service/California Landscape Conservation Cooperative & California State Coastal Conservancy. (www.pointblue.org/sfbayslr)
- 2006-2010: (co-PI) Multi-scaled data in ecology: Scale dependent patterns in the environment. Funded by National Science Foundation. (www.pointblue.org/cadc)

PEER-REVIEWED SCIENTIFIC PUBLICATIONS

2018

- Keogan, K., Daunt, F., Wanless, S., Phillips, R.A., Walling, C.A., Agnew, P., Ainley, D.G., Anker-Nilssen, T., Ballard, G., Barrett, R.T., Barton, K.J., Bech, C., Becker, P.H., Berglund, P.-A., Birkhead, T., Bollache, L., Bond, A.L., Bouwhuis, S., Bradley, R.W., Burr, Z.M., Camphuysen, K., Catry, P., Chiaradia, A., Christensen-Dalsgaard, S., Cuthbert, R., Dehnhard, N., Descamps, S., Diamon, T., Divoky, G., Drummond, H., Dugger, K.M., Dunn, M.J., Emmerson, L., Erikstad, K.E., Fort, J., Fraser, W., Gaston, A., Genovart, M., Gilg, O., González-Solís, J., Granadeiro, J.P., Gremillet, D., Hansen, J., Hanssen, S.A., Harris, M., Hedd, A., Hinke, J., Igual, J.M., Jahncke, J., Jones, I., Kappes, P.J., Lang, J., Langset, M., Lescroël, A., Lorentsen, S.-H., Lyver, P.O'B., Mallory, M., Moe, B., Montevecchi, W.A., Monticelli, D., Mostello, C., Newell, M., Nicholson, L., Nisbet, I., Olsson, O., Oro, D., Pattison, V., Poisbleau, M., Pyk, T., Quintana, F., Ramos, J., Ramos, R., Reiertsen, T.K., Rodríguez, C., Ryan, P., Sanz-Aguilar, A., Schmidt, N.M., Shannon, P., Sittler, B., Southwell, C., Surman, C., Svagelj, W.S., Trivelpiece, W., Warzybok, P., Watanuki, Y., Weimerskirch, H., Wilson, P.R., Wood, A.G., Phillimore, A.B., Lewis, S. In press. Global phenological insensitivity to shifting ocean temperatures among seabirds, *Nature Climate Change*.
- Gremillet, D., A. Lescroel, G. Ballard, K.M. Dugger, M. Massaro, E.L. Porzig, D.G. Ainley. 2018. Energetic fitness: Field metabolic rates assessed via 3D accelerometry complement conventional fitness metrics. *Funct Ecol*. Accepted Author Manuscript. doi:10.1111/1365-2435.13074

2017

- Van Doorslaer, K., V. Ruoppolo, A. Schmidt, A. Lescroel, D. Jongsomjit, M. Elrod, S. Kraberger, D. Stainton, K.M. Dugger, G. Ballard, D.G. Ainley, A. Varsani. 2017. Unique genome organization of non-mammalian papillomaviruses provides insights into the evolution of viral early proteins. *Virus Evolution*, 2017, 3(2): vex027: doi: 10.1093/ve/vex027.
- Fahsbender, E., J.M. Burns, S. Kim, S. Kraberger, G. Frankfurter, A.A. Eilers, M.R. Shero, R. Beltran, A. Kirkham, R. McCorkell, R.K. Bergartt, M.F. Male, G. Ballard, D.G. Ainley, M. Breitbart, A. Varsani. 2017. Diverse and highly recombinant anelloviruses associated with Weddell seals in Antarctica. *Virus Evolution*: 3(1) doi: 10.1093/ve/vex017.
- Ainley, D.G., K. Lindke, G. Ballard, P. O'B Lyver, S. Jennings, V. Toniolo, J. Pennycook, A. Lescroel, M. Massaro, J.A. Santora. 2017. Spatio-temporal occurrence patterns of cetaceans near Ross Island, Antarctica, 2002-2015: Implications for foodweb dynamics. *Polar Biology*: doi:10.1007/s00300-017-2100-9.
- Youngflesh, C., S. Jenouvrier, Y. Li, R. Ji, D.G. Ainley, G. Ballard, C. Barbraud, K. Delord, K.M. Dugger, L. Emmerson, W.R. Fraser, J.T. Hinke, P. O'B Lyver, S. Olmastroni, C.J. Southwell, S.G. Trivelpiece, W.Z. Trivelpiece, and H.J. Lynch. 2017. Circumpolar analysis of the Adélie penguin reveals the importance of environmental variability in phenological mismatch. *Ecology*. Accepted Author Manuscript: doi:10.1002/ecy.1749.

Ainley, D.G., G. Ballard, J.T. Eastman, C.W. Evans, N. Nur, and C.L. Parkinson. 2017. Changed prevalence, not absence explains Antarctic toothfish status in McMurdo Sound. *Antarctic Science*. doi:10.1017/S0954102016000584.

Salas, L., N. Nur, D. G. Ainley, J. Burns, J. Rotella and G. Ballard. 2017. Coping with loss of large, energy-dense prey: A potential bottleneck for Weddell seals in the southern Ross Sea. *Ecological Applications*: doi:10.1002/eap.1435.

2016

Jennings, S., A. Varsani, K.M. Dugger, G. Ballard, D. G. Ainley. 2016. Sex-based differences in Adélie Penguin (*Pygoscelis adeliae*) chick growth rates and diet. *PLoS ONE* 11(3): e0149090. doi: 10.1371/journal.pone.0149090.

2015

Ainley, D.G., G. Ballard, R. M. Jones, D. Jongsomjit, S. D. Pierce, W. O. Smith Jr., S. Veloz. 2015. Trophic cascades in the western Ross Sea, Antarctica: revisited. *Marine Ecology Progress Series* 534:1-16.

Varsani, A., E.L. Porzig, S. Jennings, S. Kraberger, K. Farkas, L. Julian, M. Massaro, G. Ballard, D.G. Ainley. 2015. Identification of an avian polyomavirus associated with Adélie penguins (*Pygoscelis adeliae*). *Journal of General Virology* 96:851-857.

Whitehead, A.L., P. O. Lyver, G. Ballard, K. Barton, B.J. Karl, K.M. Dugger, S. Jennings, A. Lescroel, P.R. Wilson, D.G. Ainley. 2015. Factors driving Adélie penguin chick size, mass, and condition at colonies of differing size in the southern Ross Sea. *Marine Ecology Progress Series* 523:199-213.

Veloz, S., L. Salas, B. Altman, J. Alexander, D. Jongsomjit, N. Elliott, G. Ballard. 2015. Making conservation count. Density data improves the effectiveness of systematic conservation planning. *Conservation Biology*: doi:10.1111/cobi.12499.

2014

Dugger, K.M., G. Ballard, D.G. Ainley, P.O'B. Lyver, C. Schine. 2014. Adélie penguins coping with environmental change: results from a natural experiment at the edge of their breeding range. *Frontiers in Ecology and Evolution*: doi:10.3389/fevo.2014.00068.

Varsani, A., S. Kraberger, S. Jennings, E. Porzig, L. Julian, M. Massaro, A. Pollard, G. Ballard, D. Ainley. 2014. A novel papillomavirus in Adélie penguin (*Pygoscelis adeliae*) faeces sampled at the Cape Crozier colony, Antarctica. *Journal of General Virology*: DOI 10.1099/vir.0.064436-0.

Ismar, S., C. Daniel, B. Igc, G. Ballard, C. Millar, A. Fidler, K. McGraw, K. Wakamatsu, B. Stephenson, P. Cassey, D. Dearborn, M. Hauber. 2014. Sexual plumage dichromatism in a size monomorphic seabird. *Wilson Journal of Ornithology* 126(3):417-428.

Lyver P.O., M. Barron, K.J. Barton, D.G. Ainley, A. Pollard, S. Gordon, S. McNeill, G. Ballard, P.R. Wilson. 2014. Trends in the Breeding Population of Adélie Penguins in the Ross Sea, 1981–2012: A Coincidence of Climate and Resource Extraction Effects. *PLoS ONE* 9(3): e91188. doi:10.1371/journal.pone.0091188.

LaRue, M., H.J. Lynch, P. O'B Lyver, K. Barton, D.G. Ainley, A. Pollard, G. Ballard. 2014. Establishing a method for estimating populations of Adélie penguins (*Pygoscelis adeliae*) using remote sensing imagery. *Polar Biology*: doi:10.1007/s00300-014-1451-8.

Ford, R.G., D.G. Ainley, A. Lescoel, P. O'B. Lyver, V. Toniolo, G. Ballard. 2014. Testing assumptions of central place foraging theory: a study of Adélie penguins *Pygoscelis adeliae* in the Ross Sea. *Journal of Avian Biology*. doi:10.1111/jav.00491.

Lescoël, A., G. Ballard, D. Grémillet, M. Authier, D.G. Ainley. 2014. Antarctic climate change: extreme events disrupt plastic response in Adélie penguins. *PLoS ONE* 9(1): e85291. doi:10.1371/journal.pone.0085291.

2013

Veloz, S.D., N. Nur, L. Salas, D. Jongsomjit, J. Wood, D. Stralberg, and G. Ballard. 2013. Modeling climate change impacts on tidal marsh birds: Restoration and conservation planning in the face of uncertainty. *Ecosphere* 4(4):49. <http://dx.doi.org/10.1890/ES12-00341.1>

Trathan, P., G. Ballard. 2013. Adélie Penguin. *In* Garcia Borboroglu, P., D. Boersma (editors): *Penguins: Natural history and conservation*. University of Washington Press. Seattle, pp. 360.

LaRue, M.A., D.G. Ainley, M. Swanson, K.M. Dugger, P. O'B. Lyver, K. Barton, G. Ballard. 2013. Climate change winners: receding ice fields facilitate colony expansion and altered dynamics in an Adélie penguin metapopulation. *PLoS ONE* 8(4): e60568. doi:10.1371/journal.pone.0060568.

2012

Burkett, V.R. and Davidson, M.A. [Eds.]. 2012. *Coastal Impacts, Adaptation and Vulnerability: A Technical Input to the 2012 National Climate Assessment*. Cooperative Report to the 2013 National Climate Assessment, pp. 150.

Latif, Q.S., S.K. Heath, & G. Ballard. 2012. The nest predator assemblage for songbirds in Mono Lake Basin riparian habitats. *Western North American Naturalist* 72:276-287.

Ainley, D.G., & G. Ballard. 2012. Trophic interactions and population trends of killer whales (*Orcinus orca*) in the Southern Ross Sea. *Aquatic Mammals* 38:153-160. DOI 10.1578/AM.38.2.2012.153.

Ainley, D.G., N. Nur, J.T. Eastman, G. Ballard, C.L. Parkinson, C.W. Evans, A.L. Devries. 2012. Decadal trends in abundance, size and condition of Antarctic toothfish in McMurdo Sound, Antarctica, 1972-2011. *Fish and Fisheries*. DOI: 10.1111/j.1467-2979.2012.00474.x.

Ballard, G., D. Jongsomjit, S.D. Veloz, and D.G. Ainley. 2012. Coexistence of mesopredators in an intact polar ocean ecosystem: The basis for defining a Ross Sea marine protected area. *Biological Conservation* 156 (2012):72-82.

Ainley, D.G., & G. Ballard. 2012. Non-consumptive factors affecting foraging patterns in Antarctic penguins: a review and synthesis. *Polar Biology* 35:1-13. DOI: 10.1007/s00300-011-1042-x.

2011

Ainley, D.G., D. Jongsomjit, G. Ballard, D. Thiele, W. R. Fraser, and C.T. Tynan. 2011. Modeling the relationship of Antarctic minke whales to major ocean boundaries. *Polar Biology*. DOI: 10.1007/s00300-011-1075-1.

Porzig, E.L., K.E. Dybala, T. Gardali, G. Ballard, G. Geupel, and J.A. Wiens. 2011. Forty-five years and counting: reflections from the Palomarin Field Station on the contribution of long-term monitoring and recommendations for the future. *The Condor* 113(4): 713-723.

2010

Ballard, G. 2010. Biotic and physical forces as determinants of Adélie penguin population location and size. PhD thesis (University of Auckland, Auckland, New Zealand).

- Ballard, G., V. Toniolo, D.G. Ainley, C.L. Parkinson, K.R. Arrigo, P.N. Trathan. 2010. Responding to climate change: Adélie penguins confront astronomical and ocean boundaries. *Ecology* 91(7):2056-2069.
- Ballard, G., K.M. Dugger, N. Nur, D.G. Ainley. 2010. Foraging strategies of Adélie penguins: adjusting body condition to cope with environmental variability. *Marine Ecology Progress Series* 405: 287–302.
- Blight, L.K., D. G. Ainley, S. F. Ackley, G. Ballard, et al. 2010. Fishing For Data in the Ross Sea. *Science* 330: 1316.
- Dugger, K.M., D.G. Ainley, P.O'B. Lyver, K. Barton and G. Ballard. 2010. Survival differences and the effect of environmental instability on breeding dispersal in an Adélie penguin meta-population. *PNAS*. www.pnas.org/cgi/doi/10.1073/pnas.1000623107.
- Lescroël, A., G. Ballard, V. Toniolo, K. J. Barton, P. R. Wilson, P.O'B. Lyver, & D.G. Ainley. 2010. Working less to gain more: when breeding quality relates to foraging efficiency. *Ecology* 91(7):2044-2055.
- Lyver, P. O'B., C.J. MacLeod, G. Ballard, B.J. Karl, J. Barton, J. Adams, D.G. Ainley & P.R. Wilson. 2010. Intra-seasonal variation in foraging behavior among Adélie penguins (*Pygoscelis adeliae*) breeding at Cape Hallett, Ross Sea, Antarctica. *Polar Biology* 34:49-67. DOI: 10.1007/s00300-010-0858-0.

2009

- Ballance, L.T., D.G. Ainley, G. Ballard, K. Barton. 2009. An energetic correlate between colony size and foraging effort in seabirds, an example of the Adélie penguin *Pygoscelis adeliae*. *Journal of Avian Biology* 40:279-288.
- Lescroël, A., K.M. Dugger, G. Ballard, D.G. Ainley. 2009. Effects of individual quality, reproductive success, and environmental variability on survival of a long-lived seabird. *Journal of Animal Ecology* 78:798-806.
- Ainley, D. G., G. Ballard, L. K. Blight, S. Ackley, S. D. Emslie, A. Lescroël, S. Olmastroni, S. E. Townsend, C. T. Tynan, P. Wilson, E. Woehler. 2009. Impacts of cetaceans on the structure of southern ocean food webs. *Marine Mammal Science*.
- Ainley D. G., G. Ballard, S. Olmastroni. 2009. An Apparent Decrease in the Prevalence of “Ross Sea Killer Whales” in the Southern Ross Sea. *Aquatic Mammals* 35:335-347.
- Illiff, M., L. Salas, E. Ruelas Inzunza, G. Ballard, D. Lepage, and S. Kelling. 2009. The Avian Knowledge Network: A Partnership to Organize, Analyze, and Visualize Bird Observation Data for Education, Conservation, Research, and Land Management. In Rich, T.D., D. Demarest and C. Thompson [eds.]. *Tundra to Tropics: Connecting Birds, Habitats, and People*. Proceedings of the 4th International Partners In Flight Conference, 13-16 February 2008. McAllen, TX. Partners In Flight.
- Kelling, S., W.M. Hochachka, D. Fink, M. Riedewald, R. Caruana, G. Ballard, G. Hooker. 2009. Data Intensive Science: A New Paradigm for Biodiversity Studies. *Bioscience* 59:613-620.
- Stephens J., D. Hanni, J.D. Alexander, G. Ballard, G.R. Geupel and B.L. Sullivan. 2009. The Avian Knowledge Alliance: A network of nongovernmental organizations working together on bird conservation. In Rich, T.D., D. Demarest and C. Thompson [eds.]. *Tundra to Tropics: Connecting Birds, Habitats, and People*. Proceedings of the 4th International Partners In Flight Conference, 13-16 February 2008. McAllen, TX. Partners In Flight.
- Sullivan, B. L., S. T. Kelling, C. L. Wood, M. J. Illiff, D. Fink, M. Herzog, D. Moody, and G. Ballard. 2009. Data Exploration through Visualization Tools. In Rich, T.D., D. Demarest and C. Thompson [eds.]. *Tundra to Tropics: Connecting Birds, Habitats, and People*. Proceedings of the 4th International Partners In Flight Conference, 13-16 February 2008. McAllen, TX. Partners In Flight.

2008

- Nur, N., G. Ballard, & G.R. Geupel. 2008. Regional analysis of riparian bird species response to vegetation and local habitat features. *Wilson Journal of Ornithology*: 120: 840 - 855.

Luther, D., J. Hilty, J. Weiss, C. Cornwall, M. Wipf, & G. Ballard. 2008. Assessing the impact of local habitat variables and landscape context on riparian birds in agricultural, urbanized, and native landscapes. *Biodiversity Conservation*. DOI 10.1007/s10531-008-9332-5.

2007

- Lauriano, G., M. Vacchi, D. G. Ainley, & G. Ballard. 2007. Observations of top predators foraging on fish in the pack ice of the southern Ross Sea. *Antarctic Science* 19:439-440.
- MacMynowski, D.P., T.L. Root, G. Ballard, & G.R. Geupel. 2007. Changes in spring arrival of Nearctic-Neotropical migrants attributed to multiscalar climate. *Global Change Biology* 13:1-13.
- Ainley, D. G., G. Ballard, S. Ackley, L. K. Blight, J. T. Eastman, S. D. Emslie, A. Lescroël, S. Olmastroni, S. E. Townsend, C. T. Tynan, P. Wilson, E. Woehler. 2007. Paradigm lost, or is top-down forcing no longer significant in the Antarctic marine ecosystem? *Antarctic Science* 19(3):283-290.
- Kooyman, G.L., D. G. Ainley, G. Ballard, & P. J. Ponganis. 2007. Effects of giant icebergs on two emperor penguin colonies in the Ross Sea, Antarctica. *Antarctic Science* 19: 31-38.

2006

- Dugger, K.M., G. Ballard, D.G. Ainley, and K.J. Barton. 2006. Flipper-band effects on the foraging behavior and survival of Adélie Penguins. *Auk* 123: 858-869.
- Ainley, D. G., G. Ballard, and K. M. Dugger. 2006. Competition among penguins and cetaceans reveals trophic cascades in the western Ross Sea, Antarctica. *Ecology* 87:2080-2093.
- Latif, Q. S., J. L. Grenier, S. K. Heath, G. Ballard & M. E. Hauber. 2006. First evidence of conspecific brood parasitism and egg ejection in song sparrows, with comments on methods sufficient to document these behaviors. *Condor* 108:453-459.

2005

- Ballard, G. and D. G. Ainley. 2005. Killer Whale Harassment of Adélie Penguins at Ross Island. *Antarctic Science* 17(3):385-386
- Shepherd, L.D., C.D. Millar, G. Ballard, D.G. Ainley, P.R. Wilson, G.D. Haynes, C. Baroni, and D.M. Lambert. 2005. Microevolution and mega-icebergs in the Antarctic. *Proceedings of the National Academy of Sciences* 102(46):16717-16722.
- Ainley, D. G., G. Ballard, B. J. Karl, K. M. Dugger. 2005. Leopard Seal predation rates at penguin colonies of different size. *Antarctic Science* 17:323-328.
- Chase, M. K., G. Ballard, T. Gardali, G. R. Geupel, A. L. Holmes, and N. Nur. 2005. Two decades of change in a coastal scrub community: songbird responses to plant succession. In Ralph, C.J. and Terrell 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.

2004

- Thomas, L., G. R. Geupel, N. Nur, & G. Ballard. 2004. Optimizing the allocation of count days in a migration monitoring program. In Ralph, C. J., and E. H. Dunn (editors). *The use of mist nets in population monitoring*. *Studies in Avian Biology* 29: 97-111.
- Nur, N., G. R. Geupel & G. Ballard. 2004. Estimates of adult survival, capture probability and recapture probability: evaluating and validating constant effort mist netting. In Ralph, C. J., and E. H. Dunn (editors). *The use of mist nets in population monitoring*. *Studies in Avian Biology* 29: 63-70.
- Ballard, G., G. R. Geupel, & N. Nur. 2004. The influence of mist-netting intensity on investigations of avian populations. In Ralph, C. J., and E. H. Dunn (editors). *The use of mist nets in population monitoring*. *Studies in Avian Biology* 29: 21-27.

Ainley, D. G., C. A. Ribic, G. Ballard, S. Heath, I. Gaffney, B. J. Karl, K. R. Barton, P. R. Wilson, & S. Webb. 2004. Geographic structure of Adélie penguin populations: size, overlap and use of adjacent colony-specific foraging areas. *Ecological Monographs*: 74:159-178.

2003

- Ballard, G., G. R. Geupel, N. Nur, & T. Gardali. 2003. Long-term declines and decadal patterns in population trends of songbirds in western North America. *Condor* 105:737-755.
- Ainley, D. G., G. Ballard, K. J. Barton, B. J. Karl, G. H. Rau, C. A. Ribic & P. R. Wilson. 2003. Spatial and temporal variation of diet within a presumed metapopulation of Adélie penguins. *Condor* 105:95-106.
- Heath, S. K. and G. Ballard. 2003. Patterns of breeding songbird diversity and occurrence in riparian habitats of the Eastern Sierra Nevada. In Faber, P.M. (ed.), *California Riparian Systems: Processes and Floodplain Management, Ecology, and Restoration*. 2001 Riparian Habitat and Floodplains Conference Proceedings, Riparian Habitat Joint Venture, Sacramento, CA.
- Heath, S. K. and G. Ballard. 2003. Bird species composition, phenology, nesting substrate, and productivity for the Owens Valley alluvial fan, Eastern Sierra Nevada, California 1998-2002. *Great Basin Birds* 6:18-35.
- Ainley, D. G., G. Ballard, S. D. Emslie, W. R. Fraser, P. R. Wilson, & E. J. Woehler. 2003. Adélie Penguins and Environmental Change. *Science* 300:429.

2002

Geupel, G. R. & G. Ballard. 2002. Wrentit (*Chamaea fasciata*), In *The Birds of North America* (A. Poole & F. Gill, eds.), No. 654. The Birds of North America, Inc. Philadelphia, PA.

2001

- Ballard, G., D. G. Ainley, C. A. Ribic & K. R. Barton. 2001. Effect of instrument attachment and other factors on foraging trip duration and nesting success of Adélie Penguins. *Condor* 103:481-490.
- Wilson P. R, D. G. Ainley, N. Nur, S. S. Jacobs, K. R. Barton, G. Ballard & J. C. Comiso. 2001. Adélie Penguin Population Change in the Pacific Sector of Antarctica: Relation to Sea-Ice Extent and the Antarctic Circumpolar Current. *Mar. Ecol. Progr. Ser.* 213: 301-309.

2000

- Gardali, T., G. Ballard, N. Nur & G. R. Geupel. 2000. Demography of a declining population of Warbling Vireos in Coastal California. *Condor* 102:601-609.
- Gardali, T. & G. Ballard. 2000. Warbling Vireo (*Vireo gilvus*), In *The Birds of North America* (A. Poole & F. Gill, eds.), No. 551. The Birds of North America, Inc. Philadelphia, PA.
- Nur, N., G. R. Geupel & G. Ballard. 2000. The use of constant-effort mist-netting to monitor demographic processes in passerines: Annual variation in survival, productivity, and floaters. In *Strategies for Bird conservation: The Partners in Flight Planning Process; Proceedings of 3rd Partners in Flight Workshop; 1995 October 1-5; Cape May, NJ; (R. Bonney, D. N. Pashley, R. J. Cooper, and L. Niles, eds.)*. Proceedings RMRS-P-16. Ogden, UT: USDA Forest Service Rocky Mtn. Research Station, pp. 185-194.

1998

Ainley, D. G., P. R. Wilson, K. R. Barton, G. Ballard, N. Nur & B. J. Karl. 1998. Diet and foraging effort of Adélie penguins in relation to pack-ice conditions in the southern Ross Sea. *Polar Biology* 20:311-319.

1993

Ballard, G. & G. R. Geupel. 1993. Winter Bird Population Study: Disturbed Coastal Scrub B. *Journal of Field Ornithology* 64, Supplement:24-25.

MAJOR INFORMATICS RELEASES & TECHNICAL PUBLICATIONS

Ballard, G., Barnard, P.L., Erikson, L., Fitzgibbon, M., Higgason, K., Psaros, M., Veloz, S., Wood, J. 2014. Our Coast Our Future (OCOF). Petaluma, California. <http://www.pointblue.org/ocof>.

Veloz, S., T. Gardali, T. Fonseca and G. Ballard. 2011. Environmental change network. <http://data.prbo.org/apps/ecn/>.

Veloz, S., M. Fitzgibbon, D. Stralberg, S. Michaile, D. Jongsomjit, D. Moody, N. Nur, L. Salas, J. Wood and G. Ballard. 2011. San Francisco Bay sea level rise: Climate change scenarios for tidal marsh habitats. www.prbo.org/sfbayslr.

DiPietro, D., Z. Stewart, A. Hollander, T. Fonseca, D. Moody, J. Quinn, M. Fitzgibbon and G. Ballard. 2011. The climate conservation commons: Making climate change and related environmental data more accessible and useable for conservation practice. <http://climate.calcommons.org>.

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SYNERGISTIC ACTIVITIES

- Port of San Francisco Waterfront Land Use Plan Update Working Group member
- California Landscape Conservation Cooperative Steering Committee and Science Committee
- Baylands Ecosystem Habitat Goals Technical Update for Climate Change Steering Committee
- California Department of Fish and Game Climate Stakeholders Working Group
- Academic Editor PLoS ONE
- Peer reviewer for NSF, British Antarctic Survey, Australian Antarctic Division, CNRS (French National Center for Scientific Research), Antarctic Science, *Auk*, Behavioral Ecology, Biological Conservation, *Condor*, *Ecography*, *Ecology*, *Great Basin Birds*, *Ibis*, *Journal Avian Ecology*, *Journal Avian Biology*, *Journal of Animal Ecology*, *Journal of Field Ornithology*, *Journal Wildlife Management*, *Marine Biology*, *Marine Ecology*, *Marine Ecology Progress Series*, *Nature*, *PLoS One*, *Polar Biology*, *Wilson Journal of Ornithology*
- Co-founder and board member, Oikonos – Ecosystem Knowledge (www.oikonos.org)
- Science advisor to Environmental Protection in the Caribbean (www.epicislands.org)