

# James F. Saracco

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## Education

2001. Ph.D., Zoology (Statistics minor), North Carolina State University, Raleigh, NC.  
1992. B.S., Biology (Chemistry minor), Indiana University of Pennsylvania, Indiana, PA.

## Professional Appointments

- Jun 2003-pres. Research Ecologist/Program Director. The Institute for Bird Populations, Pt. Reyes Station, CA.  
Aug 2002- Dec 2004. Adjunct Professor. Biology Program, University of Alaska Southeast, Juneau, AK.  
2002-03. Research Analyst III. College of Forest Resources, University of Washington, Seattle, WA.

## Teaching

- 2003-10. Instructor. 12 workshops to train biologists in field and analytical techniques for monitoring landbirds using mist netting and bird banding and sampling for avian influenza (North Carolina, Mexico, Belize, El Salvador, Nicaragua, Costa Rica, and Colombia).  
2002, 2004. Instructor. Ornithology (BIOL 426 Lecture and Lab). University of Alaska Southeast, Juneau, AK.  
2001. Teaching Assistant. Tropical Avian Biology and Conservation (ZO 572 Seminar). North Carolina State University, Raleigh, NC.  
1999. Teaching Assistant. Ornithology (ZO 501). NC State University, Raleigh, NC.

## Service

**Reviewer.** *Journals:* Biodiversity and Conservation, Biotropica, Condor, Diversity and Distributions, Ecology, Ecological Applications, European Journal of Wildlife Research, Global Ecology and Biogeography, Huitzil, Ibis, Journal of Field Ornithology, Journal of Fish and Wildlife Management, Journal of Wildlife Management, Plant Ecology, PloS ONE, Southeastern Naturalist, Western Birds, Wilson Journal of Ornithology. *Funding agencies:* National Geographic Society, National Science Foundation, Netherlands Organisation for Scientific Research, Graduate Women in Science. *Agency Internal Review:* US Geological Survey

**Committee Member.** Monitoring Subcommittee, North American Bird Conservation Initiative (NABCI); International Committee, North American Banding Council (NABC); Data Management and Applications Committee, NABC.

## Awards and Honors

2014. USDA Forest Service “Wings Across the Americas” Conservation Award.

2014. Elective Member, American Ornithologists’ Union.

2008. Rainforest Alliance Eco-Index Stellar Project Update. “Habitat-management strategies that enhance overwintering survival of migratory landbirds”.

2006. Rainforest Alliance Eco-Index’s “Are We Making Progress Yet?” Award for useful monitoring and evaluation methodology (MoSI program).

## Web Resources

DeSante, D. F., D. R. Kaschube, and J. F. Saracco. 2015. Vital Rates of North American Landbirds: The Institute for Bird Populations.

## Peer-reviewed Publications

DeSante, D. F., J. F. Saracco, and D. R. Kaschube. 2018. Estimating population change for landbird species in western North America and inferring demographic drivers of change from a MAPS-based assessment. In: Avifaunal Change in Western North America. Studies of Western Birds 2 (in press).

Pyle, P., J. F. Saracco, and D. F. DeSante. 2018. Evidence of widespread movements between breeding and molting areas in North American landbirds. *The Auk: Ornithological Advances* 135:506-520. DOI: 10.1642/AUK-17-201.1

Ruegg, K., R. A. Bay, R. J. Harrigan, J. F. Saracco, E. C. Anderson, M. Whitefield, E. Paxton, and T. B. Smith. 2018. Ecological genomics predicts climate vulnerability in an endangered southwestern songbird. *Ecology Letters*. DOI:10.1111/ele.12977

Saracco, J. F., S. Fettig, G. L. San Miguel, D. Mehlman, and S. K. Albert. 2018. Avian demographic responses to drought and fire: a community-level perspective. *Ecological Applications*. DOI:10.1002/eap.1751

Wilson, S., J. F. Saracco, R. Krikun, D. T. T. Flockhart, C. Godwin, and K. Foster. 2018. Drivers of demographic decline across the annual cycle of a threatened migratory bird. *Scientific Reports* 8:7316. DOI:10.1038/s41598-018-25633-z

Ahrestani, F. S., J. F. Saracco, J. R. Sauer, K. Pardieck, and J. A. Royle. 2017. An integrated population model for bird monitoring in North America. *Ecological Applications*. 27:916-924. DOI:10.1002/eap.1493

Foster, K. R., C. M. Godwin, P. Pyle, and J. F. Saracco. 2017. Reclamation and habitat disturbance effects on abundance and productivity indices of landbirds in the oil sands region of northeastern Alberta, Canada. *Restoration Ecology*. 25:532-538. DOI:10.1111/rec.12478

Gabriele, C., J. Neilson, J. Straley, C. S. Baker, J. Cedarleaf, and J. F. Saracco. 2017. Natural history, population dynamics and habitat use of humpback whales over 30 years at an Alaska feeding ground. *Ecosphere* 8(1): e01641. DOI:10.1002/ecs2.1641

Ray, C., J. F. Saracco, A. L. Holmgren, R. L. Wilkerson, R. B. Siegel, K. J. Jenkins, J. I. Ransom, P. J. Happe, J. R. Boetsch, and M. H. Huff. 2017. Recent stability of resident and migratory landbird populations in National Parks of the Pacific Northwest. *Ecosphere* 8(7):e01902. DOI:10.1002/ecs2.1902

Ray, C., J. F. Saracco, K. J. Jenkins, M. H. Huff., P. J. Happe, and J. I. Ransom. 2017. Development of a robust analytical framework for assessing landbird population trends, dynamics and relationships with environmental covariates in the North Coast and Cascades Network. *Natural Resources Report NPS/NCCN/NRR-2017/1483*. National Park Service, Fort Collins, Colorado. <https://pubs.er.usgs.gov/publication/70190517>

- Albert, S., D. DeSante, R. Siegel, D. Kaschube, and J. Saracco. 2016. Monitoring landbirds in national parks: understanding populations, migratory connectivity, and climate change. Pages 11-17 in: S. Weber, editor. *Engagement, Education, and Expectations — The Future of Parks and Protected Areas: Proceedings of the 2015 George Wright Society Conference on Parks, Protected Areas, and Cultural Sites*. Hancock, Michigan: George Wright Society.
- Albert, S.K., D.F. DeSante, D.R. Kaschube, and J.F. Saracco. 2016. MAPS (Monitoring Avian Productivity and Survivorship) data provide inferences on demographic drivers of population trends for 158 species of North American landbirds. *North American Bird Bander* 41:133-140.
- Ruiz-Gutierrez, V., W. L. Kendall, J. F. Saracco, and G. C. White. 2016. Overwintering strategies of migratory birds: a novel approach for estimating movement patterns of residents and transients. *Journal of Applied Ecology* 53:1035-1045 DOI:10.1111/1365-2664.12655
- Rushing, C. S., T. B. Ryder, A. Scarpignato, J. F. Saracco, and P. P. Marra. 2016. Using demographic attributes from long-term monitoring data to delineate natural populations. *Journal of Applied Ecology* 53:491-500 DOI:10.1111/1365-2664.12579
- Saracco, J. F., P. Radley, P. Pyle, E. Rowan, R. Taylor, and L. Helton. 2016. Linking avian vital rates to rainfall and vegetation greenness on a tropical island. *PLoS ONE* 11(2): e0148570. DOI:10.1371/journal.pone.0148570
- Siegel, R., R Taylor, J. F. Saracco, L. Helton, and S. Stock. 2016. GPS-tracking reveals molt migration and year-round movements of a black-headed grosbeak from Yosemite National Park. *Journal of Field Ornithology* 87:196-203. DOI:10.1111/jfo.12149.
- George, T. L., R. J. Harrigan, J. L. LaManna, D. F. DeSante, J. F. Saracco, and T. B. Smith. 2015. Persistent impacts of West Nile virus on North American bird populations. *Proceedings of the National Academy of Sciences USA* 112:14290–14294. <https://doi.org/10.1073/pnas.1507747112>
- Rushing, C. S., T. B. Ryder, J. F. Saracco, and P. P. Marra. 2014. Assessing migratory connectivity for a long-distance migratory bird using multiple intrinsic data sources. *Ecological Applications* 24:445-456. <https://doi.org/10.1890/13-1091.1>
- Saracco, J.F., A. L. Holmgren, R. L. Wilkerson, R. B. Siegel, R. C. Kuntz II, K. J. Jenkins, P. J. Happe, J. R. Boetsch, and M. H. Huff. 2014. Landbird trends in national parks of the North Coast and Cascades Network, 2005–12: U.S. Geological Survey Open-File Report 2014–1202, 36 p., <http://dx.doi.org/10.3133/ofr20141202>.
- Saracco, J. F., C. M. Gabriele, and J. Neilson. 2013. Population dynamics and demography of humpback whales in Glacier Bay and Icy Strait, Alaska. *Northwestern Naturalist* 94:187-197. <https://doi.org/10.1898/12-34.1>
- LaManna, J. A., T. L. George, J. F. Saracco, M. P. Nott, and D. F. DeSante. 2012. El Niño-Southern Oscillation influences annual survival of a migratory songbird at a regional scale. *Auk* 129:734-743. <https://doi.org/10.1525/auk.2012.12017>
- Saracco, J. F., J. A. Royle, D. F. DeSante, and B. Gardner. 2012. Spatial modeling of survival and residency and application to the Monitoring Avian Productivity and Survivorship program. *Journal of Ornithology* 152 (Supplement 2):S469-S476. DOI:10.1007/s10336-010-0565-1
- Siegel, R. B., R. L. Wilkerson, R. C. Kuntz II, J. F. Saracco, and A. L. Holmgren. 2012. Elevation ranges of birds at Mount Rainier National Park, North Cascades National Park Service Complex, and Olympic National Park. *Northwestern Naturalist* 93:23–39. <https://doi.org/10.1898/11-08.1>
- Saracco, J. F., R. B. Siegel, and B. L. Wilkerson. 2011. Occupancy modeling of black-backed woodpeckers on burned Sierra Nevada forests. *Ecosphere* 2(3): art31. doi:10.1890/ES10-00132.1
- Siegel, R. B., R. L. Wilkerson, J. F. Saracco, and Z. Steel. 2011. Elevation ranges of birds on the Sierra Nevada’s west slope. *Western Birds* 42:2-26.
- Fuller, T., S. Saatchi, E. Curd, E. Toffelmier, H. Thomassen, W. Buermann, D. F. DeSante, M. P. Nott, J. F. Saracco, C. J. Ralph, J. Pollinger, J. Alexander, and T. B. Smith. 2010. Mapping risk of avian influenza in

wild birds in the US. *BMC Infectious Diseases* 10:187. doi:10.1186/1471-2334-10-187

Saracco, J. F., J. A. Royle, D. F. DeSante, and B. Gardner. 2010. Modeling spatial variation in avian survival and residency probabilities. *Ecology* 91:1885-1891. <https://doi.org/10.1890/09-0705.1>

DeSante, D. F., D. K. Kaschube, James F. Saracco, and J. E. Hines. 2009. Power to detect differences and trends in apparent survival rates. *Bird Populations* 9:29-41.

DeSante, D. F. and J. F. Saracco. 2009. Power of the MAPS program to detect differences and trends in survival and a vision for future program expansion. *Bird Populations* 9:42-75.

Robinson, R. A., R. Julliard, and J. F. Saracco. 2009. Constant effort: monitoring avian population change through standardised ringing. *Ringling and Migration* 24:199-204. <https://doi.org/10.1080/03078698.2009.9674392>

Saracco, J. F., D. F. DeSante, M. P. Nott, and D. R. Kaschube. 2009. Using the MAPS and MoSI programs to monitor landbirds and inform conservation. Pp. 651-658 In: *Proceedings of the Fourth International Partners in Flight Conference* (T. D. Rich, C. D. Thompson, D. Demarest, and C. Arizmendi, editors). *Partners in Flight*.

Saracco, J. F., D. F. DeSante, M. P. Nott, W. M. Hochachka, S. Kelling, and D. Fink. 2009. Integrated bird monitoring and the Avian Knowledge Network: using multiple data resources to understand spatial variation in demographic processes and abundance. Pp. 659-661 In: *Proceedings of the Fourth International Partners in Flight Conference* (T. D. Rich, C. D. Thompson, D. Demarest, and C. Arizmendi, editors). *Partners in Flight*.

Saracco, J. F., D. F. DeSante, and D. R. Kaschube. 2008. Assessing landbird monitoring programs and demographic causes of population trends. *Journal of Wildlife Management* 72:1665-1673. <https://doi.org/10.2193/2008-129>

Dovčiak, M., C. B. Halpern, J. F. Saracco, S. A. Evans, and D. A. Liguori. 2006. Persistence of ground-layer bryophytes in a structural-retention experiment: initial effects of level and pattern of overstory retention. *Canadian Journal of Forest Research* 36:3039-3052. <https://doi.org/10.1139/x06-168>

DeSante, D. F., T. S. Sillett, R. B. Siegel, J. F. Saracco, C. A. Romo de Vivar Alvarez, S. Morales, A. Cerezo, D. Kaschube, B. Milá, and M. Grosselet. 2005. MoSI (Monitoreo de Sobrevivencia Invernal): Assessing habitat-specific overwintering survival of neotropical migratory landbirds. Pp. 926-936 In: *Bird Conservation Implementation and Integration in the Americas* (C. J. Ralph and T. D. Rich, Editors). USDA Forest Service Gen. Tech. Rep. PSW-GTR-191.

Saracco, J. F., J. A. Collazo, M. J. Groom, and T. A. Carlo. 2005. Crop size and fruit neighborhood effects on bird visitation to fruiting *Schefflera morototoni* trees in Puerto Rico. *Biotropica* 37:81-87. <https://doi.org/10.1111/j.1744-7429.2005.04040.x>

DeSante, D. F., J. F. Saracco, D. R. O'Grady, K. M. Burton, and B. L. Walker. 2004. Methodological considerations of the Monitoring Avian Productivity and Survivorship Program. *Studies in Avian Biology* 29:28-45.

Saracco, J. F., J. A. Collazo, and M. J. Groom. 2004. How do frugivores track resources? Insights from spatial analyses of bird foraging in a tropical forest. *Oecologia* 139:235-245. DOI:10.1007/s00442-004-1493-7

Saracco, J. F. and J. A. Collazo. 1999. Predation on artificial nests along three edge types in a North Carolina bottomland hardwood forest. *Wilson Bulletin* 111:541-549.

DeSante, D. F., K. M. Burton, J. F. Saracco, and B. L. Walker. 1995. Productivity indices and survival-rate estimates from MAPS, a continent-wide programme of constant-effort mist-netting in North America. *Journal of Applied Statistics* 22:935-947. <https://doi.org/10.1080/02664769524720>

## Technical Reports

Marra, P. P., T. B. Ryder, S. Sillett, M. Betts, R. Siegel, J. Saracco, and R. Fischer. 2017. Using a hierarchical approach to model regional source-sink dynamics for Neotropical-Nearctic songbirds to inform management practices on Department of Defense installations. SERDP Project RC-2121 Final Report. <http://www.dtic.mil/get-tr-doc/pdf?AD=AD1036310>

Saracco, J.F. and L. Helton. 2016. Seasonal demographics of landbirds on Saipan: report on the 2014-15 TMAPS program. The Institute for Bird Populations, Point Reyes Station, CA.

Saracco, J.F., L. Helton, and P. Pyle. 2015. Seasonal demographics of landbirds on Saipan: report on the 2013-14 TMAPS program. The Institute for Bird Populations, Point Reyes Station, CA.

Saracco, J.F., P. Pyle, E. Rowan, R. Taylor, and P. Radley. 2014. Closed robust design modeling of 2013 Saipan TMAPS capture-recapture Data. The Institute for Bird Populations, Point Reyes Station, CA.

Saracco, J.F., P. Radley, P. Pyle, E. Rowan, and R. Taylor. 2014. Vital rates of landbirds on Saipan and links to remote-sensed habitat data: A summary of five years (2008-2012) of the Tropical Monitoring Avian Productivity and Survivorship (TMAPS) program on Saipan, Northern Mariana Islands. The Institute for Bird Populations, Point Reyes Station, CA.

Saracco, J. F. V. Ruiz-Gutierrez, W. L. Kendall, P. Pyle, J. L. Alcantara, L. Andino, and R. Taylor. 2012. Identification and management of priority winter bird habitats for migratory landbirds: research results and implications for conserving and managing winter habitat. Report to the US Fish and Wildlife Service.

Saracco, J.F., and V. Ruiz-Gutierrez. 2012. Development of restoration and scaling options for songbirds. The Institute for Bird Populations, Point Reyes Station, CA.

Siegel, R.B., J.F. Saracco, R.L. Wilkerson, and S. Stock. 2012. Long-term demographics of Yosemite's songbirds: an analysis of data from the Monitoring Avian Productivity and Survivorship (MAPS) Program in Yosemite National Park. Report to Yosemite National Park. The Institute for Bird Populations, Point Reyes Station, CA.

Saracco, J. F., and C. M. Gabriele. 2011. Population Modeling for 25 years of Humpback Whale Observations and Sight-Resight Data from Glacier Bay National Park and Preserve. Report to the California Cooperative Ecosystem Studies Unit. 17 pp.

DeSante, D. F., J. F. Saracco, and D. R. Kashube. 2010. Vital rates of North American landbirds. Analyses of the first 15 Years (1992-2006) of the Monitoring Avian Productivity and Survivorship (MAPS) Program: Identifying the Proximate Demographic Causes of Population Trends. Report to the Division of Migratory Bird Management U. S. Fish and Wildlife Service. 26 pp.

Siegel, R. B., J. F. Saracco, and R. L. Wilkerson. 2010. Management Indicator Species (MIS) on Sierra Nevada National Forests: Black-backed Woodpecker 2009 annual report. Submitted to the USDA Forest Service. 58 pp.

Pyle, P., J. F. Saracco, D. R. Kaschube, P. Radley, J. Junda, and A. Lindsay-Crary. 2009. The Tropical Monitoring Avian Productivity and Survivorship (TMAPS) program on Saipan, Commonwealth of the Northern Mariana Islands: 2009 report. Submitted to the CNMI Division of Fish and Wildlife. 28 pp.

Siegel, R. S., J. F. Saracco, and D. R. Kaschube. 2009. The Monitoring Avian Productivity and Survivorship (MAPS) program in Kings Canyon National Park 1991-2008. Submitted to Kings Canyon National Park. 49 pp.

Saracco, J. F., and D. F. DeSante. 2008. Identifying proximate causes of population trends in migratory birds. Submitted to the National Fish and Wildlife Foundation. 44 pp.

Saracco, J. F., D. R. Kaschube, J. Bradley, and C. Carter. 2008. The Tropical Monitoring Avian Productivity and Survivorship (TMAPS) program on Saipan, Commonwealth of the Northern Mariana Islands: 2008 report. Submitted to the CNMI Division of Fish and Wildlife. 14 pp.

- Saracco, J. F., D. F. DeSante, P. Pyle, S. Morales, J. L. Alcántara, and C. Romo. 2008. Assessing winter habitat quality for migratory landbirds: a report on five winters (2002-03 through 2006-07) of the Monitoreo de Sobrevivencia Invernal (MoSI) program. Submitted to the US Fish and Wildlife Service. 43 pp.
- Saracco, J. F., D. R. Kaschube, and D. F. DeSante. 2008. Modeling over-wintering survival of declining landbirds: final report on four years of the Monitoring Avian Winter Survival (MAWS) program on southeastern US DoD installations. Submitted to the DoD Legacy Resource Management Program. 74 pp.
- DeSante, D. F., J. F. Saracco, P. Pyle, D. R. Kaschube, and M. Chambers. 2008. Integrating the MAPS program into Coordinated Bird Monitoring in the Northeast (U.S. Fish and Wildlife Service Region 5). 2008. Submitted to the Northeast Coordinated Bird Monitoring Partnership and the American Bird Conservancy. 99 pp.
- Saracco, J. F., D. R. Kaschube, and D. F. DeSante. 2007. 2006 Report of the Monitoring Avian Productivity and Survivorship (MAPS) program in Dillingham, Nome, and Umiat, Alaska. Submitted to the US Fish and Wildlife Service. 36 pp.
- Saracco, J. F., D. F. DeSante, D. R. Kaschube, J. E. Hines, M. P. Nott, and R. B. Siegel. 2006. An analysis of the Monitoring Avian Productivity and Survivorship (MAPS) program and a vision for its integration into North American coordinated bird monitoring. Submitted to the US Geological Survey. 87 pp.
- Saracco, J. F., D. F. DeSante, D. R. Kaschube. 2006. Identifying causes of population change in landbirds: phase I progress report. Submitted to the National Fish and Wildlife Foundation. 72 pp.
- Saracco, J. F., and D. F. DeSante. 2006. Sampling landbirds for avian influenza in Alaska: a synopsis of the Dillingham, Nome, and Umiat projects. Submitted to the US Fish and Wildlife Service. 6 pp.
- Saracco, J. F., D. F. DeSante, D. R. Kaschube. 2006. Modeling overwintering survival of declining landbirds: the 2005-06 annual report of the Monitoring Avian Winter Survival (MAWS) program on four DoD installations in the southeastern United States. Submitted to the US Fish and Wildlife Service. 46 pp.
- Pyle, P., D. F. DeSante, J. F. Saracco, and D. R. Kaschube. 2005. The 2005 report annual report of the Monitoring Avian Productivity and Survivorship Program on the Flathead Reservation of the Confederated Salish and Kootenai Tribes. 74 pp.
- Saracco, J. F., D. F. DeSante, C. Romo de Vivar Alvarez, S. Morales, B. Milá, D. R. Kaschube and N. Michel. 2004. Monitoring overwintering apparent survival of migratory landbirds in the neotropics: interim report on the first two years (2002-04) of the Monitoreo de Sobrevivencia Invernal (MoSI) program. Unpubl. technical report submitted to the U.S. Fish and Wildlife Service. 50 pp.
- Saracco, J. F., and S. Gende. 2004. Breeding landbird communities in a recently deglaciated landscape. Report submitted to Glacier Bay National Park and Preserve. 7 pp.