



## John A. Gallo

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Dr. Gallo is a geographer and landscape ecologist performing “action research” in conservation assessment, planning, and implementation. Action research uses best practices and explores scientific frontiers while performing applied conservation projects. One of his action research emphases is on connectivity conservation, including:

- building connectivity modeling and mapping software for prioritizing efforts,
- improving the design and communication methods for a key model input (the “resistance surface”),
- incorporating climate change considerations, and
- combining results from many focal species and structural connectivity analyses to make a single “master map” and web tool for connectivity conservation in a region,

A second emphasis is on Landscape Conservation Design (LCD), a recent re-framing of conservation planning with increased guidance on engaging stakeholders and end users in the iterative steps of convening, assessment, spatial design, and strategy design (iCASS). Within this realm he is looking especially at:

- Developing and deploying advances in spatial decision support systems (SDSS)
- Better enabling strategy implementation and monitoring
- More inclusion of citizen science

Many components of this LCD emphasis are included in current projects in Santa Barbara, Fort Bragg, and Sonoma County, CA.

## **SUMMARY OF PRIMARY SKILLS**

Conservation Planner, GIS Analyst/Programmer (Modelbuilder and basic Python), Science Communicator, Project Manager, Geographer, and Wildlife Biologist.

## **EDUCATION**

2007 – 2009 - Post-Doctoral Research, University of Cape Town/ Nelson Mandela Metropolitan University. South Africa.

2007 - Ph.D. Geography (Human/Environment Relations Emphasis) University of California, Santa Barbara (UCSB). Advisor: Michael Goodchild. Thesis: *Engaged conservation planning and uncertainty mapping as means towards effective implementation and monitoring.*

1995 - Bachelor of Science. Ecology. UCSB.

1995 - Bachelor of Arts. Environmental Studies (Natural Science Emphasis). UCSB.

## **EMPLOYMENT HISTORY**

2013 – Present - Senior Scientist, Conservation Biology Institute, Corvallis, OR.

2010 – 2013 - Senior Landscape Ecologist, The Wilderness Society, San Francisco, CA.

1997 – 2013 - Principal, John Gallo, Conservation Services, CA.

2007 – 2009 - Post-doctoral Fellow, University of Cape Town; and Nelson Mandela Metropolitan University, Little Karoo, South Africa.

1996 – 2007 - Project Director, then Conservation Scientist, Conception Coast Project, Santa Barbara, CA.

2001 – 2006 - Teaching Assistant, Department of Geography, UCSB.

2002 – 2003 - Research Associate, Department of Geography, UCSB.

1995 – 2002 - Museum Associate (Wildlife Biologist) Cheadle Center for Biodiversity and Ecological Restoration, UCSB.

1993 – 1994 - Wildlife Biologist, U.S. Forest Service, Nez Perce NF, Idaho.

## **SELECT AWARDS**

- 2008 – ESRI, Inc. Conservation Grant. Creating a decision support system for conservation action.
- 2008 – Table Mountain Fund- Incorporating local expert knowledge into a decision support system.
- 2007 – National Research Foundation (South Africa)- Postdoctoral research award regarding engaged conservation planning for action.
- 2007 – Critical Ecosystems Partnership Fund- Action research grant regarding engaged conservation planning for action in the Little Karoo, South Africa.
- 2006 – Jack and Laura Dangermond Award – “promise in Geographic Information Science.”
- 2000 – 2005 - Regents Special Fellowship- University of California.
- 2000 – The Philip and Aida Siff Educational Foundation Fellowship.
- 2000 – NSF Graduate Research Fellowship. Honorable Mention.
- 1995 – Highest College Honors, UCSB- Top 2% of graduating class university-wide.
- 1995 – Excellence in Environmental Studies, UCSB.
- 1991 – 1995 Regent’s Fellowship, University of California.
- 1991 – Mensa Society Award. “Outstanding intellectual promise.”
- 1991 – Elks Club Fellowship. Most Valuable Student award.
- 1991 – Rotary International Award. “proven and continued ‘service above self.’”
- 1991 – Valedictorian. Mendocino High School.

## **SELECT PROJECT EXPERIENCE**

**Developing a Conservation Blueprint with and for the Community.** Used participatory action research to gather and share local and expert data, analyses, and knowledge about the landscape, including a consensus-based quantitative mapping of priority areas of multiple-benefits for ecosystem services. Santa Barbara County, CA.

**Consensus building for a working landscape.** Developed and deployed a basic decision support system to help environmental and industry stakeholders come to consensus on the spatial conservation and development priorities in the Kenogami-Ogoki Forest of Ontario, Canada. Emphasis on caribou conservation and timber yield.

**Conservation planning SDSS for three types of conservation to address climate change.** Developed and deployed a proof-of concept spatial decision support system to allocate a landscape among three types of conservation, and to transparently communicate why any planning unit received its allocation and valuations.

**A “living” SDSS for Sonoma County.** Employing a transparent and “living” SDSS to updateable as data and politics change, and be published online as an interactive, Web-based program so that the public can explore and learn about the District’s prioritization methods and priority conservation areas.

**Connectivity Software Development.** Developed improvements to LinkageMapper software, with collaborators, to also provide inter-corridor prioritization instead of just intra-corridor prioritization. Applied this new software to seven landscapes.

**Road Decommissioning Prioritization Software Development** (While at The Wilderness Society). Developed RoadRight, with collaborators, a SDSS that combines a large suite of input criteria to help prioritize which road segments of a national forest are best for decommissioning.

**Consensus building for conservation actions** (While at Nelson Mandela Metropolitan University). Quantified the role of private land stewardship in biodiversity conservation. Created an SDSS for synthesizing ecological needs and anthropocentric constraints to help a partnership between a land-trust and a government agency come to consensus on high conservation priority properties.

**Developing a Regional Conservation Guide for the Community** (While at Conception Coast Project). Used participatory action research to perform a [systematic conservation assessment](#) that also mapped uncertainty. Utilized local expert knowledge and multi-criteria modeling of marginal utility and incorporated inter-organizational input to create a public reference that mapped and communicated the landscape requirements for maintaining ecological integrity.

**Surveyed and monitored Least Bell's Vireo and Southwestern Willow Flycatcher** (While at John Gallo, Conservation Services). Surveyed several mile stretch of wide and thick riparian floodplain for these species. Twenty-seven breeding pairs were found, 28 nests, and 103 eggs. Other species were monitored, and the full report is available [here](#).

**Surveyed for Timber Wolf and Northern Goshawk** (While at USFS). Led the field crew in howling surveys for timber wolf and playback surveys for northern goshawk on day long and 4-day backpacking trips. Planned routes, entered data, and reported findings. Also helped as a night watchman interacting with EarthFirst!.

### **PROFESSIONAL MEMBERSHIPS AND CERTIFICATES**

- Society for Conservation Biology
- Society for Conservation GIS
- The Resilience Connections Network (The Resilience Alliance)
- The Wildlands Network
- The Nature Conservancy

### **PUBLICATIONS**

Campellone, R.M., K.M. Chouinard, N.A. Fisichelli, J.A. Gallo, J.R. Lujan, R.J. McCormick, T. Miewald, B.A. Murry, D.J. Pierce, and D.R. Shively. 2018. The iCASS Platform: Nine principles for landscape conservation design. *Landscape and Urban Planning* [[link](#)].

McGreavy, B., M. Chandler, M. Clyde, M. Haklay, H. Ballard, S. Gray, R. Scarpino, R. Hauptfeld, and J. Gallo. 2017. *The Power of Place in Citizen Science*. Maine Policy Review.

Newman, G., M. Clyde, B. McGreavy, M. Chandler, M. Haklay, H. Ballard, S. Gray, D. Mellor, and J. Gallo. 2017. Leveraging the power of place in citizen science for effective conservation decision making *Biological Conservation* 208 55-64 [[link](#)].

Gallo, J. and M. Goodchild. 2011. Mapping Uncertainty in Conservation Assessment as a Means Toward Improved Conservation Planning and Implementation. *Society and Natural Resources* 25 (1) 22-36 [[link](#)].

Gallo, J., L. Pasquini, B. Reyers, and R. Cowling. 2009 The role of private conservation areas in biodiversity representation and target achievement within the Little Karoo region, South Africa. *Biological Conservation* 142 (2) 446-454 [[link](#)].

Gallo, J., G. Aplet, A. Lombard, J. Thomson, R. Greene, and F. Davis. In Prep. Land-use allocation modeling for multiple zones that is transparent, intuitive, and includes climate-wise connectivity.

### **SELECT PUBLICATIONS (NON-JOURNAL ARTICLES)**

Gallo, John A., J. Strittholt, G. Joseph, H. Rustigian-Romsos, R. Degagne, J. Brice, and A. Prisbrey. 2019. Mapping Habitat Connectivity Priority Areas That Are Climate-Wise and Multi-Scale, for Three Regions of California. Conservation Biology Institute. [[DOI link](#)]

Gatewood, B., F. Davis, J. Gallo, S. Main, J. McIntre, A. Olsen, G. Parker, D. Pearce, S. Windhager, and C. Work. 2018. Santa Barbara County Conservation Blueprint: Creating a Landscape of Opportunity. Ag Innovations and Conservation Biology Institute. [[DOI link](#)]

Gallo, J., R. Greene. 2018 Connectivity Analysis Software for Estimating Linkage Priority. Conservation Biology Institute. [[DOI link](#)]

Aplet, G. and J. Gallo. 2012. Applying Climate Adaptation Concepts to the Landscape Scale: Examples from the Sierra and Stanislaus National Forests The Wilderness Society [[.pdf](#)]

Gallo, J. 2009. Engaged Conservation Planning and uncertainty mapping: A framework and a method for improving the implementation of conservation plans. VDM Verlag Publishing, Saarbruecken, Germany [[view](#)] [[request](#)]

Gallo, J. 2007. Engaged Conservation Planning and uncertainty mapping as a means towards effective implementation and monitoring. Doctoral Dissertation. Department of Geography. University of California, Santa Barbara. [[open access](#)]

Gallo, J. 2005. Mapping Uncertainty to Ease the Tension between Public Participation GIS and Conservation Planning. In Proceedings of the 4th Annual Public Participation GIS Conference. Urban and Regional

Information Systems Association (URISA) July 31 - August 2. Cleveland State University. Cleveland, Ohio

Pyke, C., P. Alagona, N. Goldstein, B. Bierwagen, J. Merrick, H. Rosenberg, and J. Gallo. 1999. A Plan for Outreach: Defining the Scope of Conservation Education. *Conservation Biology* 13:1238

Gallo, J. 1996. Quantitative Analysis of the Habitat Requirements for the Bell's Sage Sparrow, *Amphispiza belli belli*, at Vandenberg Air Force Base, California. *Discovery, UCSB Journal of Undergraduate Research*. Santa Barbara, CA [\[link\]](#)

Gallo, J., J. Studarus, G. Helms, and E. Machado. 2005. Regional Conservation Guide Conception Coast Project. Santa Barbara, CA. [\[link\]](#)

Gallo, J., and J. Smart. 2003. Who Wants to Help Build a Stronger Sustainability Movement? Hopedance: Pathways to Sustainable Living *and* Positive Solutions. Issue 36. January-February. [Republished in 2009: [link](#)]

Stoecker, M. and Conception Coast Project, 2002. Steelhead Assessment and Recovery Opportunities in Southern Santa Barbara County, California. Conception Coast Project, Santa Barbara, CA [\[link\]](#)

Gallo, J., J. Scheeter, M. Holmgren, and S. Rothstein. 1999. Initiation of a Long term Ecological Monitoring Project: Avian Point Counts and Habitat Assessments in Riparian Communities at Vandenberg Air Force Base, California. University of California, Santa Barbara Museum of Systematics and Ecology, Environmental Report No. 13 [\[link\]](#)

Gallo, J. 1999. Species Account for the Bell's Sage Sparrow In Holmgren, M. and Collins, P. (eds.) *Distribution and Habitat associations of Six Special Concern Bird Species at Vandenberg Air Force Base, California*. University of California, Santa Barbara, Museum of Systematics and Ecology, Environmental Report No. 7

## **SELECT CONFERENCE PRESENTATIONS**

Gallo, J., R. Greene. 2018. Modeling Climate-wise Connectivity and the Relative Conservation Priority among and within Linkages. North American Congress of Conservation Biology, Toronto, Canada. July 18.

Gallo, J., R. Greene, R. DeGagne, H. Rustigian-Rosmos, J. Brice, J. Strittholt, and W. Spencer. 2017. Modeling the relative priority of habitat linkages,

- including climate considerations. Society for Conservation GIS Conference, July 17 [[link](#)].
- Gallo, J., 2017 Utilizing web-enabled geographic information systems to leverage the power of place in collaborative conservation science. In Symposium: Designing collaborative science projects and tools for conservation Citizen Science Association Conference. Saint Paul, Minnesota, April 18 [[link](#)].
- Gallo, J., 2016 Spatial conservation prioritization for multiple actions, with connectivity, and transparency. North American Congress of Conservation Biology, Madison, WI. July 17.
- Aplet, G (presenter), P. McKinley, and J. Gallo. 2016 Keynote: Spreading Conservation Risk with a Portfolio of Strategies Natural Areas Association. Sacramento, CA Oct. [[video](#)].
- Gallo, J., and G. Aplet. 2016 Allocating land to a three zone climate adaptation strategy using a spatial decision support system. American Association of Geographers, San Francisco, CA. April 1. [[link](#)] (In: symposium organized by Dr. Gallo: Conservation in the Anthropocene- Balancing Innovation with Caution? [[link](#)].
- Gallo, J., 2015. Place-based Citizen Science: Linking Together to Leverage the Power of Place. American Association for the Advancement of Science, San Jose, CA. February 15 [[Link](#)].
- Gallo, J., 2014 A land-use decision support prototype for combining a broad suite of ecological models. Ecological Society of America. Sacramento, CA, August 14.
- Gallo, J., 2014 Implementation of conservation objectives via living and integrated decision support systems. North American Congress of Conservation Biology. Missoula, Montana, July 16.
- Gallo, J., A. Lombard and R. Greene. 2013 Achieving implementation of conservation plans by using a “living” and “engaged” decision support framework International Congress of Conservation Biology. Baltimore, MD, July 24.
- Gallo, J., M. Deitz, J. Boggs and K. Menke. 2013. Rightsizing the National Forest Road System: A Road Decommissioning Decision Support Tool Society for Conservation GIS. Monterey, CA, July 17.



- Gallo, J., A. Lombard and R. Greene. 2013 (workshop) A “living” decision support framework and system for conservation assessment, planning, and management Society for Conservation GIS. Monterey, CA, July 16.
- Gallo, J. 2012 Collaborative Landscape Planning and Management (Poster) Public Participation in Scientific Research Conference, Portland, OR, August.
- Gallo, J. 2012 A Landscape Decision Support System and Online Collaborative Laboratory (Collaboratory) North American Congress of Conservation Biology, Oakland, CA ; July 17, 2012.
- Gallo, J., R. Greene, M. Van Bakel. and T. Robinson. 2012 Symposium: LandAdvisor and The Landscape Collaborative Society for Conservation GIS. Monterey, CA, July.
- Gallo, J. and R. Greene. 2011 A Landscape Decision Support System and Online Collaborative Laboratory (Collaboratory) ESRI User’s Conference, San Diego, CA, July 14.
- Gallo, J., 2010 A vision, framework, and customizable decision support toolbox for conservation action Society for Conservation GIS. Monterey, CA, July 10.
- Gallo, J., A. Lombard, R. Cowling. 2009 A new framework and systematic conservation planning prototype that includes the “working landscape” and can harness Web 2.0 Society for Conservation Biology, Bay Area Chapter Conference, San Francisco, CA.
- Gallo, J., A. Lombard, R. Cowling. 2009 The BioVision Decision Support System for Conservation Action Biodiversity Planning Forum, Durban, South Africa, March 12.
- Gallo, J., A. Lombard, R. Cowling. 2008 Lorax: A framework for estimating the current conservation value and recommended action for every site in a region. Interfaces Conference, Oudtshoorn, South Africa, August 5.
- Gallo, J., L. Pasquini, B. Reyers, and R. Cowling. 2008. The role of private conservation areas in biodiversity representation. Society for Conservation Biology, Chattanooga, Tennessee. July 16.
- Gallo, J. 2007. Engaged conservation planning and the landscape knowledge network: Reconnecting society and nature while conserving biodiversity. Society for Conservation Biology. Port Elizabeth, South Africa. June 27.

- Gallo, J. 2007. Engaged conservation planning and management reconnecting society and nature while conserving biodiversity. Society for Conservation Biology Conference, Bay Area Chapter, Berkeley, CA January.
- Gallo, J. 2006. Honest Mapping: Communicating the Uncertainty Inherent to Conservation Planning as a Means Towards Implementation. Society for Conservation GIS. San Jose, CA. June 27.
- Gallo, J. 2006. Reconnecting Society and Nature: Bioregionalism for a New Millennium. Annual meeting the Association of American Geographers. Chicago, IL. March 8.
- Gallo, J. 2005. Presenting Conservation Plans: the Role of Imperfection. Association of Pacific Coast Geographers. Phoenix, AZ. October 21.
- Gallo, J. 2005. Mapping Uncertainty to Ease the Tension in Public Participation GIS and Conservation Planning. Annual Conference of Public Participation GIS sponsored by URISA. Cleveland, OH. July.
- Gallo, J. and M. Goodchild. 2005. Can the mapping of uncertainty ease the tension between PPGIS and Conservation Planning? Annual meeting of the Association of American Geographers. Denver, CO. April.
- Gallo, J. and C. Gallipeau. 2003. Modeling landscape Connectivity using a Least-Cost Path Function for Puma (*Puma concolor*) Dispersal. Agricultural Geography and Biogeography Poster Session. Annual meeting of the Association of American Geographers. New Orleans, LA. March 5.
- Gallo, J. 2002. Place-based Conservation Planning. Environmental Sustainability and Policy Session. Annual meeting of the Association of American Geographers. Los Angeles, CA. March 23.
- Gallo, J. 2000. Perspectives on Stakeholder Involvement, and a Model Metadata Standard: Summary of the Human-Environment Workgroup. 4th International Conference on Integrating Geographic Information Systems (GIS) and Environmental Modeling. Banff, Alberta. September 8.

## **SELECT KEYNOTES AND INVITED LECTURES**

2018. Knowledge Systems, Regional Sustainability, and the Santa Barbara County Conservation Blueprint. Seminar at Bren School of Environmental Science and Management, UC Santa Barbara. March 12. [[Link](#)] [[Video](#)]

2015. Helping Citizen Science Take Flight: Studies, Resources and Opportunities to Improve the Utility and Uptake of Citizen Science. Audubon Society. Mendocino Coast Chapter, Caspar, CA. February 16 [[Link](#)].
2014. Boundary Organizations Pushing the Frontier of Spatially Explicit and Collaborative Decision-Making about the Environment. At: Democratizing Technologies- Assessing the roles of NGOs in shaping technological futures. Santa Barbara, CA, November 14.
2012. Collaborative Research Towards Collaborative Conservation Planning and Management. UC Santa Barbara: Michael Goodchild Retirement Event. May 24.
2011. Wolves, Wildness, and Conservation Science. Santa Clara University: Env'tl. Studies 22. November 17.
2009. Building and implementing a spatial decision support system for conservation action. Nelson Mandela Metropolitan University. April 23.
2008. The role of private conservation areas in biodiversity representation here in the Little Karoo. Gauritz Initiative Stakeholder Forum. February 2.
2006. Conservation GIS in the Santa Barbara Region. Geography 176A: Introduction to Geographic Information Systems. October 26 [[Link to .ppt](#)].
2005. Landscape Connectivity and Multi-Criteria Conservation Planning. Environmental Studies 100: Environmental Ecology. November 18.
2005. Gated Least-Cost-Path Modeling and Landscape Connectivity. Geography 176B: Intermediate Geographic Information Systems. March 3.
2004. Conservation Planning and GIS. Geography 176C: Advanced Geographic Information Systems. May 27.
2003. Habitat Connectivity For Large Mammals. Environmental Studies 20: Watershed Issues, Policy, and Research. November 7.
2003. The Web of Sustainable Progress: A Vehicle for Social Change? Antioch University: Community Psychology and Social Change. September 27.

2002. The Wildlands Project and Conception Coast Project: Normative Conservation Planning. Environmental Studies 190: Current Topics in Environmental Studies. April 29.
2002. Developing “Common Ground” for the Gaviota Coast. Ecology and Evolution 192B: Shoreline Preservation Research.. March 8.
2001. The Fourth Wave of Environmentalism: A Ride Towards Sustainability? Environmental Studies 1: Introduction to Environmental Studies. November 29.
2001. Conservation Planning Case Study. Geography 167: Biogeography. November.
2001. The Movement’s Two Front Strategy: Damage Control and the Paradigm Shift. Keynote Address at the Annual Banquet of the Shoreline Preservation Fund, Santa Barbara. May 29.
2000. Conception Coast Project: Bridging Academia, Business, and Government towards a Community-Based Vision. UCSB Arts and Lectures at Campbell Hall. Presented after Dave Forman presented The Wildlands Project. May 3.
2000. Biodiversity Conservation and “Reserve Design” within a Planning Context. Geography 185A: Planning Issues. Winter.
1999. Biodiversity Conservation within a Planning Context. Geography 185A: Planning Issues. Winter.

### **SELECT PROFESSIONAL ACTIVITIES**

- Associate, [Spatial Decision Support Consortium](#), with an area of emphasis on multi-criteria decision making; 2013 – present.
- Peer-review Annals of the Association of American Geographers, Diversity and Distributions, Journal of Environmental Management, Natural Areas Journal and PLoS ONE,. 2002-Present.
- Short Course Introduction to Geoprocessing Scripts using Python. Instructor: Jack Horton, ESRI. July30-Aug 1, 2013.
- Board of Directors Conception Coast Project 1995-1997; 2000-Present.
- Graduate Student Representative Faculty Search Committee, Earth-System Processes 2001.

Stakeholder Representative Gaviota Coast “Common Ground” Steering Committee: 2000 to 2002. Helped negotiate the terms and make-up of an eventual stakeholder group. At times was the only “urban environmentalist” among 20 residents, ranchers and developers.

[\[Relevant editorial\]](#)

Undergraduate Representative Environmental Studies Curriculum Revision Committee: 1994 to 1995.

Short Course Wildlands Studies: Greater Yellowstone. Backpacked roadless areas in Montana with small class, met with experts, and simulated a Wilderness valuation process. August 1 – 21, 1992.