

## JEANETTE HOWARD Ph.D.

### PROFESSIONAL EXPERIENCE

#### Co-chair of the California Biodiversity Network

2024-Present

- Co-Lead a statewide coalition composed of academic institutions, NGOs, government agencies, and private-sector partners advancing conservation science and practice
- Guide and support CBN's core collaborative structures, including:
  - Topical Roundtables facilitating communities of practice across conservation disciplines
  - Working Groups producing key resources
  - Workshops, forums, and town hall discussions strengthening cross-sector coordination
- Serve as a key partner in the launch and implementation of California's 30x30 conservation initiative to help align scientific institutions and conservation organizations around shared priorities
- Foster a collaborative forum that advances biodiversity protection, stewardship, environmental education, and scientific inquiry across California's diverse conservation community

#### Director of Science, Water and Land Programs, The Nature Conservancy, San Francisco, CA

2008-2025

##### **Science, Conservation and Strategy Development**

- Led the California chapter's science and planning efforts to develop and demonstrate innovative conservation solutions to environmental challenges.
- Developed and led a science program to create the conditions necessary for implementing a comprehensive vision for California's water future.
- Developed a science program to manage a system of protected areas.
- Created replicable models of best practice in stewardship.
- Established conservation goals and priorities for effective science engagement in emerging and pressing freshwater issues including environmental flows and groundwater.
- Developed monitoring plans to evaluate impacts of restoration and land use practices to establish quantifiable measures to evaluate project success.

##### **Partner Engagement and Outreach**

- Enhanced science capacity and managed cooperative arrangements with key partner, including private landowners, government agencies, NGOs, and academic institutions.
- Co-chaired the California Biodiversity Network, a 900-member group of conservation practitioners
- Science advisor for internal and external stakeholder groups
- Served as member of statewide technical task forces aimed at salmon recovery and sustainable water management.

- Communicated best practices and lessons learned from TNC projects for policy-makers and groups actively involved in on-the-ground activities.
- Effectively translated research findings and lessons learned to interdisciplinary audiences

#### **Grants Management and Administration**

- Oversaw all aspects of grants and contracts, including RFP preparation, scopes of work development, amendments and compliance with funding agreements.

#### **Ecoregional Ecologist, The Nature Conservancy, San Francisco, CA**

**2006-2008**

- Directed multiple projects associated at the Garcia River Forest, a TNC conservation site for sustainable forestry and salmonid restoration including:
  - aquatics monitoring program and protocols
  - partnerships with academic, federal, state, local NGOs and community stakeholders in sustainable forestry effort.
  - community support including outreach and participation in local stakeholder tours, meetings and educational activities.
- Standardized aquatic and terrestrial monitoring protocols across the organization.
- Wrote, secured and managed numerous grant application, developed reports and outreach materials for North Coast region research projects.

#### **Project Leader, Confederated Tribes of the Umatilla Indian Reservation**

**2002-2006**

#### **Freshwater Mussel and Lamprey Research and Restoration Projects, Pendleton, Oregon.**

- Designed, implemented and directed a research program for the recovery of freshwater mussels and Pacific lamprey to self-sustaining levels in the Umatilla River.
- Established and maintained relationships with key scientists in academic, federal, state and Tribal communities.
- Managed annual budgets totaling \$780,000.
- Trained and supervised eight biologists and technicians in both field and laboratory techniques.

#### **EDUCATION**

**Ph.D., University of California, Berkeley, Department of Geography, 2004.**

**M.S., University of Florida, Gainesville, Department of Geography**

**B.A., San Francisco State University, Department of Journalism**

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#### **SELECTED ARTICLES IN PEER-REVIEWED JOURNALS:**

Rohde, M.M., Albano, C.M., Huggins, X., Klausmeyer, K.R., Morton, C., Sharman, A., Zaveri, E., Saito, L., Freed, Z., Howard, J.K. and Job, N., 2024. Groundwater-dependent ecosystem map exposes global dryland protection needs. *Nature*, 632(8023), pp.101-107.

Bean, W.T., Butterfield, H.S., Howard, J.K. and Batter, T.J., 2024. Climatically robust multiscale species distribution models to support pronghorn recovery in California. *Ecology and Evolution*, 14(6), p.e11454.

- Bean, W. T., Butterfield, H. S., Fiehler, C., Hacker, D., Howard, J. K., Namitz, R., ... & Batter, T. J. 2024. Contrasting management paradigms for pronghorn in the arid Southwest and their northern range: a review. *The Journal of Wildlife Management*, 88(2), e22523.
- Howard, J. K., Dooley, K., Brauman, K. A., Klausmeyer, K. R., & Rohde, M. M. 2023. Ecosystem services produced by groundwater dependent ecosystems: a framework and case study in California. *Frontiers in Water*, 5, 1115416.
- Jumani, S., Andrews, L., Grantham, T. E., McKay, S. K., Duda, J., & Howard, J. 2023. A decision-support framework for dam removal planning and its application in northern California. *Environmental Challenges*, 12, 100731.
- Rhode, M.M., Biswas, T., Housman, I.W., J.K. Howard. 2021. A machine learning approach to predict groundwater levels in California reveals ecosystems at risk. *Frontiers in Earth Science*, DOI: [10.3389/feart.2021.784499](https://doi.org/10.3389/feart.2021.784499)
- Yarnell, S.M. , Stein, E.D. Webb, J.A., Grantham, T., Lusardi, R.A., Zimmerman, J., Peek, R.A., Lane, B.A., Howard, J.K., Sandoval-Solis, S. 2020. A functional flows approach to selecting ecologically relevant flow metrics for environmental flow applications. *River Research and Applications* . doi:10.1002/rra.3575
- Zipper, S.C., Carah, J.K., Dillis, C., Gleeson, T., Kerr, B., Rohde M.M., Howard, J.K., and Zimmerman, J.K.H. 2019. Cannabis and residential groundwater pumping impacts on streamflow and ecosystems in Northern California. *Environmental Research Communications*, 1(12): 125005
- Rohde, M. M., Reynolds, M., & Howard, J. 2019. Dynamic multibenefit solutions for global water challenges. *Conservation Science and Practice*, 2, e144.
- Reis, G. J, Howard, J. K, Rosenfield, J. A. 2019. Clarifying Effects of Environmental Protections on Freshwater Flows to—and Water Exports from—the San Francisco Bay Estuary. *San Francisco Estuary and Watershed Science*, 17(1). <https://escholarship.org/uc/item/8mh3r97j>
- Grantham T.E., Zimmerman J., Carah J., Howard J.K. 2019. Stream flow modeling tools inform environmental water policy in California. *California Agriculture* 73(1):33-39. <https://doi.org/10.3733/ca.2018a0039>.
- Grantham, T.E., Carlisle, D.M., McCabe G.J., Howard, J.K. 2018. Sensitivity of streamflow to climate change in California. *Climatic Change*, 149(3): 427-441.
- Howard, J. K., Fesenmyer, K. A., Grantham, T. E., Viers, J. H., Ode, P. R., Moyle, P. B., ... Wright, A. N. 2018. A freshwater conservation blueprint for California: prioritizing watersheds for freshwater biodiversity. *Freshwater Science*, 37(2), 417–431. <https://doi.org/10.1086/697996>
- Zimmerman, J., Carlisle, D.M., May, J.T., Klausmeyer, K.R., Grantham T.E., Brown, L.R., and Howard, J.K. 2018. Patterns and magnitude of flow alteration in California, USA. *Freshwater Biology*, 63: 859– 873. <https://doi.org/10.1111/fwb.13058>
- Mierau, D.W., Trush W.J., Rossi G.J., Carah J.K., Clifford M.O., Howard J.K. 2017 Managing diversions in unregulated streams using a modified percent-of-flow approach. *Freshwater Biology* , 63: 1-17.

- Rohde, M.M., R. Froend, and J.K. Howard. 2017. A Global Synthesis of Managing Groundwater Dependent Ecosystems Under Sustainable Groundwater Policy. *Groundwater*. Available at: <http://onlinelibrary.wiley.com/doi/10.1111/gwat.12511/full>
- Grantham, T. E., Fesenmyer, K. A., Peek, R., Holmes, E., Quiñones, R. M., Bell, A., Santos, N., Howard, J. K., Viers, J. H., Moyle, P. B. 2017. Missing the Boat on Freshwater Fish Conservation in California. *Conservation Letters*, 10: 77–85. doi:10.1111/conl.12249
- Ta, J., Kelsey, R.T., Howard, J.K., Lund, J.R., Sandoval-Solis, S., Viers J.H. 2016. Simulation Modeling to Secure Environmental Flows in a Diversion Modified Flow Regime. *Journal of Water Resources Planning and Management* 142, no. 11 (2016): 05016010.
- Willis, A., Campbell, A., Fowler, A., Babcock, C., Howard, J.K., Deas, M., Nichols A. 2015. Instream Flows: New Tools to Quantify Water Quality Conditions for Returning Adult Chinook Salmon. *Journal of Water Resource, Planning and Management*.  
<http://ascelibrary.org/doi/10.1061/%28ASCE%29WR.1943-5452.0000590>
- Carah, J., Howard, J.K., Thompson, S., Short-Gianotti, A., Bauer, S., Carlson, S., Gabriel, M.W., Hulette, L., Johnson, B., Knight, C., Kupferberg, S., Martin, S., Naylor, R., Power, M.E. 2015. High time for conservation: Adding the environment to the debate on marijuana liberalization. *BioScience*. doi:10.1093/biosci/biv083.  
<http://bioscience.oxfordjournals.org/content/early/2015/06/19/biosci.biv083.short?rss=1&source=mfr>
- Howard, J.K., Klausmeyer, K.R., Fesenmyer, K.A., Furnish, J., Gardali, T., Grantham, T.E., Katz, J.V.E., Kupferberg, S., McIntyre, P., Moyle, P.B., Ode, P.R., Peek, R., Quiñones, R.M., Rehn, A.C., Santos, N., Schoenig, S., Serpa, L., Shedd, J.D., Slusark, J., Viers, J.H., Wright, A., Morrison. S.A. 2015. Patterns of Freshwater Species Richness, Endemism, and Vulnerability in California, USA. *PLoSOne*. DOI: 10.1371/journal.pone.0130710.<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0130710>
- Howard, J.K., Furnish, J., Brim Box, J., Jepsen, S. 2015. The decline of native freshwater mussels (Bivalvia: Unionoida) in California as determined from historical and current surveys. *California Department of Fish and Wildlife Journal*, 101(1): 8-23.