

Dale S. Turner

Conservation Scientist

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EDUCATION

Master of Science, Wildlife & Fisheries Science, 1998
University of Arizona, Tucson, AZ

Bachelor of Arts, Behavioral Sciences, 1982
Rice University, Houston, TX

EXPERIENCE

July 2001 –
present

Conservation Planner/Conservation Scientist, The Nature Conservancy in Arizona

- Conservation project development and management, with an emphasis on the Lower Colorado River and its Delta.
- Leading teams in preparation of conservation action plans.
- Cooperative planning projects with agency partners.
- Ecological research and GIS analyses to better understand critical conservation issues.

Aug 2000 –
Jul 2001

Principal Research Specialist, University of Arizona, with the Inventory and Monitoring Program for the Sonoran Desert Network, National Park Service

- Part of a three-member management team responsible for planning and directing animal and plant inventories in 11 parks and monuments, a 5-year, million-dollar effort.
- Personal responsibilities included managing databases and budgets, hiring and supervising field biologists and office assistants.

Aug 1999 –
Aug 2000

National Park Service, saguaro monitoring program

- Organized and directed up to 5 field assistants and many volunteers in a resurvey of study plots in Saguaro National Park, including data collection on demography and health of saguaros, mapping perennial vegetation, surveying for exotic plants, analyzing data, preparing reports and interpretive materials.

July 1997 –
Aug 1999

Co-investigator (with P. Holm and C. Schwalbe), University of Arizona, "Herpetological Survey of the Whetstone Mountains." Arizona Game & Fish Heritage Fund Grant #I97042.

- Designed and implemented survey and monitoring protocols for reptiles and amphibians in the Whetstone Mountains, Arizona.
- Managed field crew of three assistants.

July 1995 –
Mar 1998

Co-investigator (with C. Schwalbe), University of Arizona, "Ecology of Cowles fringe-toed lizard." Arizona Game & Fish Heritage Fund Grant #I95042.

- Designed and implemented studies of reproduction, diet, demography, and

movement by *Uma notata rufopunctata* in the Mohawk Dunes, Arizona.

- Managed field crew of one to three assistants.

July 1994 –

Feb 1997

Research Assistant, University of Arizona,

“Unique sand dune ecosystems inventory and monitoring program, Barry M. Goldwater Air Force Range, Arizona.” U.S. Air Force Legacy grant #95-1009.

- Designed and implemented studies of reptile and plant communities.

May 1992 –

June 1993

Operations Manager, Drylands Institute, Tucson, AZ.

- Wrote biological research grants, coordinated projects, wrote and edited reports, organized field trips, including biological and photographic surveys.

**PEER-REVIEWED
ARTICLES**

- Rorabaugh, J.C., D. Turner, T.R. Van Devender, V. Hugo-Cabrera, R.J. Maynard, R.W. Van Devender, R.A. Villa, P. Hamilton, S.F. Hale, C. Aguilar-Morales, A. Blanco-Gutiérrez, E. Wallace, C. Hedgcock. 2019. Herpetofauna of the Mesa Tres Ríos Area in the Northern Sierra Madre Occidental of Sonora, Mexico. *Herpetological Review* 50(2): 251-259.
- Allen, D.C., D.A. Kopp, K.H. Costigan, T. Datry, B. Hugueny, D.S. Turner, G.S. Bodner, and T.J. Flood. 2019. Citizen scientists document long-term streamflow declines in intermittent rivers of the desert Southwest, USA. *Freshwater Science* 38(2):244-256.
- Turner D.S., T.R. Van Devender, H. Silva-Kurumiya, N. León Del Castillo, C. Hedgcock, C. Roll, M. Wilson, and F.I. Ochoa-Gutierrez. 2017. Distribution of *Phrynosoma ditmarsii* Stejneger, 1906, with notes on habitat and morphology. *Mesoamerican Herpetology* 4(4): 979-985.
- Robles, M.D., D.S. Turner, and J.A. Haney. 2017. A century of changing flows: Forest management changed flow magnitudes and warming advanced the timing of flow in a southwestern US river. *PLoS ONE* 12(11): e0187875.
- Gungle, B., Callegary, J.B., Paretti, N.V., Kennedy, J.R., Eastoe, C.J., Turner, D.S., Dickinson, J.E., Levick, L.R., and Sugg, Z.P. 2016. Hydrological conditions and evaluation of sustainable groundwater use in the Sierra Vista Subwatershed, Upper San Pedro Basin, southeastern Arizona: U.S. Geological Survey Scientific Investigations Report 2016–5114 (ver. 1.2, February 2017). 90 p.
- Lacher, L.J., D.S. Turner, B. Gungle, B.M. Bushman, H.E. Richter. 2014. Application of hydrologic tools and monitoring to support managed aquifer recharge decision making in the upper San Pedro River, Arizona, USA. *Water* 6: 3495-3527.
- Richter, H.E., B. Gungle, L.J. Lacher, D.S. Turner, B.M. Bushman. 2014. Development of a shared vision for groundwater management to protect and sustain baseflows of the upper San Pedro River, Arizona. *Water* 6: 2519-2538.
- Griffith, G.E., J.M. Omernik, C.B. Johnson, and D.S. Turner. 2014. Ecoregions of Arizona (poster): U.S. Geological Survey Open-File Report 2014–1141.
- Minckley, T.A., A. Brunelle, and D. Turner. 2013. A paleoenvironmental framework for understanding the development, stability and state-changes of ciénegas in the American Deserts. Pp. 77-83 in: *Merging science and management in a rapidly changing world: biodiversity and management of the Madrean Archipelago III*. 2012 May 1-5, Tucson, AZ. Proceedings RMRS-P-67. Fort Collins, CO: U.S.D.A., Forest Service, Rocky Mountain Research Station.
- Minckley, T.A., D.S. Turner, and S.R. Weinstein. 2013. The relevance of wetland conservation in arid regions: A re-examination of vanishing communities in the American Southwest. *Journal of Arid Environments* 88: 213-221.
- Turner D.S., and H.E. Richter. 2011. Wet/dry mapping: using citizen scientists to monitor the extent of perennial surface flow in dryland regions. *Environmental Management* 47:497–505.
- Flesch, A.D., D.E. Swann, D.S. Turner, and B.F. Powell. 2010. Herpetofauna of the Rincon Mountains, Southeastern Arizona. *Southwestern Naturalist* 55(2): 240-

253.

- Enderson, E.F., A. Quijada-Mascareñas, D.S. Turner, P.C. Rosen, and R.L. Bezy. 2009. The herpetofauna of Sonora, Mexico, with comparisons to adjoining states. *Checklist* 5(3): 632–672.
- Turner, D.S. and M.D. List. 2007. Habitat mapping and conservation analysis to identify critical streams for Arizona's native fish. *Aquatic Conservation: Marine and Freshwater Ecosystems* 17(7): 737–748.
- Turner, D.S., and C. S. Funicelli. 2004. Demographic changes and epidermal browning in two protected populations of saguaro cactus (*Carnegiea gigantea*). *Desert Plants* 20(1): 16-23.
- Felger, R.S., D.S. Turner, and M.F. Wilson. 2003. Flora and Vegetation of the Mohawk Dunes, Arizona. *Sida* 20(3): 1155-1187.
- Turner, D.S., P.A. Holm, E.B. Wirt, and C.R. Schwalbe. 2003. Amphibians and Reptiles of the Whetstone Mountains, Arizona. *The Southwestern Naturalist* 48(3): 347–355.
- Glenn, E.P, R.S. Felger, A. Búrquez, & D.S. Turner. 1992. Cienega de Santa Clara: endangered wetland in the Colorado River delta, Sonora, Mexico. *Natural Resource Journal* 32(4): 817-824.

BOOK CHAPTERS

- Enderson, E.F., A. Quijada-Mascareñas, D.S. Turner, R.L. Bezy, and P.C. Rosen. 2010. Una sinopsis de la herpetofauna con comentarios sobre las prioridades en investigación y conservación. Pages 357-383 in F. Molina and T. Van Devender, eds., *Diversidad Biológica de Sonora*. Universidad Nacional Autónoma de México.
- Turner, D.S. and J.C. Rorabaugh. 2009. Yuman fringe-toed lizard. Pages 274-277 in L.L.C. Jones and R. Lovich, eds. *Lizards of the American Southwest: a Photographic Field Guide*. Rio Nuevo Press, Tucson, AZ.
- Felger, R.S., B. Broyles, M.F. Wilson, G.P. Nabhan, and D.S. Turner. 2007. Six grand reserves, one grand desert. Pages 3-26 in: R.S. Felger and B. Broyles, eds. *Dry Borders: Great Natural Reserves of the Sonoran Desert*. University of Utah Press, Salt Lake City.

TECHNICAL REPORTS

- Guarinello, M.L., M.D. Robles, D.S. Turner, R.M. Marshall, and M.C. Wilson. 2017. A place for human modification and intactness data in regional mitigation: A case study from Arizona. *The Nature Conservancy*, Tucson, AZ.
- Haney, J.A., D.S. Turner, A.E. Springer, J.C. Stromberg, L.E. Stevens, P.A. Pearthree, and V. Supplee. 2008. *Ecological Implications of Verde River Flows*. A report by the Arizona Water Institute, The Nature Conservancy, and the Verde River Basin Partnership. viii + 114 pages.
- Marshall, R.M., D. Turner, A. Gondor, D. Gori, C. Enquist, G. Luna, R. Paredes Aguilar, S. Anderson, S. Schwartz, C. Watts, E. Lopez, P. Comer. 2004. *An Ecological Analysis of Conservation Priorities in the Apache Highlands Ecoregion*. Prepared by The Nature Conservancy of Arizona, Instituto del Medio Ambiente y el Desarrollo Sustentable del Estado de Sonora, agency and institutional partners. 152 pp.
- Turner, D. 2002. Bill Williams River watershed site conservation analysis. *The Nature Conservancy*, Tucson, AZ.
- Turner, D. 2002. Aravaipa Canyon watershed site conservation plan. *The Nature Conservancy*, Tucson, AZ.
- Turner, D.S., R.S. Felger, K. Mauz, C.S. Funicelli, T. VanDevender, and J. Malusa. 2000. *Biological resources of the proposed Sonoran Desert National Monument, Arizona*. Report from Drylands Institute to the Sonoran Desert National Park Project, Tucson, AZ. 86 pp.
- Funicelli, C.S., P.J. Anning, and D.S. Turner. 2000. *Long-term vegetation monitoring at Saguaro National Park: a decade of change*. Technical Report No. 70, U.S. Geological Survey, Sonoran Desert Field Station, Tucson, AZ. 53 pp.