

Tim B. Graham

U.S. Geological Survey(435)-719-2339
 Biological Resources Division(435)-719-2350 (FAX)
 2290 West Resource Blvd
 tim_graham@usgs.gov
 Moab, Utah 84532

Education

Ph.D.: Ecology-Biology, Utah State University, Logan, UT., 1986.

Dissertation: Plant-herbivore interactions: grasses and grasshoppers in Grand Canyon National Park, Arizona. Major Professor: Dr. Ivan G. Palmblad.

B.A.: Marine Ecology, The Evergreen State College, Olympia, WA. 1977.

Professional Experience

8/96-present	Ecologist, USGS--BRD Canyonlands Field Station, Moab
3/93-8/96	Ecologist, NPS and NBS Cooperative Research Unit, UC Davis
10/91-3/93	Biologist Curecanti National Recreation Area (CURE)
3/87-10/91	Bio-tech, Canyonlands NP, Arches NP, Natural Bridges NM (Southeast Utah Group [SEUG])

Teaching experience

Mentor for Prescott College Adult Degree Program student in Moab (April 2008-present)

Adjunct faculty member at Utah State University as member of Ph.D. candidate student in Department of Wildland Resources, College of Natural Resources (2007-present).

Adjunct faculty member at Utah State University, instructor for Canyonlands Field Institute, Moab Utah (1985-1992, 1996-2000). Designed and taught field courses: Desert Ecology, Pothole Ecology, Ecology of the Colorado Plateau.

Adjunct faculty member at Brigham Young University, instructor for Canyonlands Field Institute, Moab Utah (1985-1992), same courses as above.

Wildlands Research Institute, San Francisco State University (1984-1986): Designed and taught Ecology of Colorado Plateau, an intensive three week field course.

Teaching Asst. at Utah State University (1978-1984): Biology and the Citizen, Discovering Nature, Human Physiology, Plant Physiology, Plant Anatomy, Plant-Water Relations, General Ecology, Field Ecology.

Professional Affiliations

Ecological Society of America
 Entomological Society of America
 Orthopterists' Society
 International Large Branchiopod Society
 Society for Conservation Biology
 George Wright Society

Select Honors

Performance Awards: Curecanti NRA, 1993, CPSU-UCD, 1993, USGS, 1998.

Special Achievement Awards: Canyonlands NP, 1987, Curecanti NRA, 1993.

USGS Star Award: 1999.

Publications

- Graham, Tim B.** 1991. Ecology of potholes on the Colorado Plateau: observations on community structure and ecosystem processes. *Colorado Plateau* 1(1):2&5.
- Graham, Tim B.** 1991. Air pollution and desert systems at risk: the susceptibility of pothole ecosystems on the Colorado Plateau to acid deposition. pp. 102-111 *in* D. Mangis, J. Baron, and K. Stolte (eds.) *Acid rain and air pollution in desert parks, Proceedings of a workshop, May 1988 and management recommendations.* Tech. Rep. NPS/NRAQD/NRTR-91/02.
- Graham, Tim B.** 1991. Western rattlesnake ecology at Natural Bridges National Monument, Utah. *Park Science.* 11:10-11.
- Graham, Tim B.** 1992. Ecology of potholes on the Colorado Plateau: sensitivity of pothole communities and ecosystems to acid deposition. *Colorado Plateau* 2(1):1&8.
- Graham, Tim B.** 1994. Predation by dipteran larvae on fairy shrimp (Crustacea:Anostraca) in Utah rock pools. *Southwestern Naturalist* 39:206-207.
- Graham, Tim B.** 1994. Ecology of a population of *Crotalus viridis* at Natural Bridges National Monument: implications for management of people and rattlesnakes. unpublished report to Natural Bridges National Monument. 9pp.
- Graham, Tim B.** 1995. Sympatric occurrence of Eubranchiopoda in ephemeral pools: a comment. *American Midland Naturalist* 133:371-372.
- Graham, Tim B.** 1997. The Knowles Cañon hanging garden, Glen Canyon National Recreation Area, five years after burning: vegetation and soil biota patterns. pp. 173-190 *in* C. van Riper III and E. T. Deshler (eds.) *Proceedings of 3rd Biennial Conference of Research on the Colorado Plateau, Northern Arizona University, Flagstaff, AZ.*
- Graham, Tim B.** 1997. Reptiles. *in* California, Chapter 18 (S.D. Veirs, Jr. and P.A. Opler), *in* M.J. Mac, P.A. Opler, C.E. Puckett Haecker, and P.D. Doran (eds.) *Status and trends of the nation's biological resources, U.S. Department of the Interior, U.S. Geological Survey, Washington D.C.*
- Graham, Tim B.** 1997. Climate change and ephemeral pool ecosystems: potholes and vernal pools as potential indicator systems. *in* *Impacts of Climate Change and Land Use in the Southwestern United States.* World Wide Web poster session: <http://geochange.er.usgs.gov/sw/>
- Graham, Tim B.** 1997. Grasshopper communities in native and non-native grasslands of the Colorado Plateau: differences in density and species composition. Abstract, pp. 173-174. *in* L. M. Hill. *Learning from the land: Grand Staircase-Escalante National Monument Science Symposium proceedings, Cedar City, UT, Bureau of Land Management, Utah State Office, BLM/UT/GI-98/006+1220.*
- Graham, Tim B.** 1999. Life in the fast pool. *Plateau Journal* 1999/2000 (Winter):29-45.
- Graham, Tim B.** 2000. Heat futures: the arid southwest United States. *Earthwatch Institute Journal* 2000 (November):28.
- Graham, Tim B.** 2002. Survey of ephemeral pool invertebrates at Wupatki NM: an evaluation of the significance of constructed impoundments as habitat. *Hydrobiologia* 486:215-224.
- Graham, Tim B.** 2004. Amphibian Monitoring in the Canyon Country of the Colorado Plateau. Featured story on Amphibian Research and Monitoring Initiative (ARMI) web page February-July 2004. http://armi.usgs.gov/feature_canyon_country.asp

- Graham, Tim B.** 2005. Biology of Covered Species—Crustaceans, Sections R-U, and V.1 and V.2. pp II-185-225 in Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon. U.S. Fish and Wildlife Service, 613pp.
- Graham, Tim B.** 2005. Amphibians of southeast Utah. *Blue Mountain Shadows* 31:37-48.
- Graham, Tim B.** 2006. Hidden Life. *Wings Fall* 2006:18-21.
- Graham, Tim B.** 2008. The Knowles Canyon hanging garden, Glen Canyon National Recreation Area, eight years after burning: changes in vegetation and soil biota." pp.290-317 in L. E. Stevens and V. J. Meretsky (ed.), *Aridland springs in North America: Ecology and Conservation*. University of Arizona Press, Tucson, AZ.
- Graham, Tim B.** and B.B. Chomel. 1997. Population dynamics of the deer mouse (*Peromyscus maniculatus*) and Sin Nombre Virus, California Channel Islands. *Emerging Infectious Diseases* 3:367-370.
- Graham, Tim B.**, T. Persons, W. Schaedla, and D. Moore. 1995. Temperature patterns of rattlesnakes (*Crotalus viridis*) at Natural Bridges National Monument, Utah. pp. 255-274 in C. van Riper III (ed.), *Proceedings of 2nd Biennial Conference on Research in the Colorado Plateau Parks*, Northern Arizona University, Flagstaff, AZ.
- Graham, Tim B.** and R. W. Meyer. 1995. Observations of a Great Blue Heron rookery: changes in nesting effort over six years. pp. 285-292 in C. van Riper III (ed.), *Proceedings 2nd Biennial Conference on Research in the Colorado Plateau Parks*, Northern Arizona University, Flagstaff, AZ.
- Graham, Tim B.** and R.A. Norton. 1997. Uncharismatic microfauna of the Colorado Plateau: notes on distribution and ecology of an undescribed pothole-dwelling ameronothroid (Acari:Ameronothridae) mite. pp.477-483. in L. M. Hill. *Learning from the land: Grand Staircase-Escalante National Monument Science Symposium proceedings*, Cedar City, UT, Bureau of Land Management, Utah State Office, BLM/UT/GI-98/006+1220.
- Graham, Tim B.** and Platenberg, R.J.. 2001. Summary of initial results from reptile and amphibian inventories in Northern Colorado Plateau Parks, 2001 Annual Report. Unpublished report to Northern Colorado Plateau Network, National Park Service. January 2002.
- Graham, Tim B.** and D. Wirth. 2008. Dispersal of large branchiopod cysts: potential movement by wind from potholes on the Colorado Plateau. *Hydrobiologia* 600: 17-27.
- Graham, Tim B.**, Brasher, A.M.D., and Close, R.N. 2008. Mormon cricket control in Utah's west desert; evaluation of impacts of the pesticide diflubenzuron on nontarget arthropod communities. U.S. Geological Survey Open-File Report 2008-1305, 82 p. [<http://pubs.usgs.gov/of/2008/1305/>].
- Campbell, L. A., **Tim B. Graham**, L. P. Thibault, P. A. Stine. 1996. The arroyo toad (*Bufo microscaphus californicus*): ecology, threats, and research needs. Technical Report NBS/CSC-96-01. California Science Center, National Biological Service, University of California, Davis, CA.
- Chan, M. A., K. Moser, K., J. M. Davis, Southam, G., K. Hughes, and **T. Graham**, 2005. Desert potholes: Ephemeral aquatic microsystems: *Aquatic geochemistry* 11:279-302.
- Clausnitzer, D., M. Huso, D. Pyke, J. Belnap, **T. Graham**, R.L. Sanford & S. Phillips. 2003. Interactions of cattle grazing and climate change: hierarchical data analysis Pp 1062-1064 *IN: Allsopp N., A.R. Palmer, S.J. Milton, K.P. Kirkman, G.I.H. Kerley & C.R. Hurt (eds) Proceedings of the VIIth International Rangelands Congress, 26th July-1st August 2003, Durban, South Africa*. Document Transformation Technologies, Irene, South Africa.

- Gladney, E. S., **Tim B. Graham**, R. W. Ferenbaugh, M. G. Bell, and C. E. Burns, J. D. Morgan, and E. J. Nickell. 1993. Chemical analysis of selected pothole water sources in Southwestern National Parks, Monuments, and Recreation Areas. Los Alamos National Laboratory Technical Report LA-12605-MS.
- Hanna, David D., and **Timothy B. Graham**. 2003. Chapter 9, Reptiles and Amphibians of the Piñon-Juniper Woodlands. pp. 151-165. in L. Floyd-Hanna and D. Hanna (eds.), Ancient Pinon-Juniper Woodlands: a natural history of Mesa Verde Country, University Press of Colorado, Boulder, CO.
- Jocqué, Merlijn, **Tim Graham**, and Luc Brendonck. 2007. Local structuring factors of invertebrate communities in ephemeral freshwater rock pools and the influence of more permanent water bodies in the region. *Hydrobiologia* 592: 271-280.
- Norton, R.A., **Tim B. Graham**, and G. Alberti. 1997. A rotifer-eating ameronothroid (Acari:Ameronothridae) mite from ephemeral pools on the Colorado Plateau. pp. 539-542. in R. Mitchell, D.J. Horn, G.R. Needham and W.C. Welbourn (eds.) *Acarology IX, Proceedings (IXth Inter. Congress of Acarology)*. Ohio Biol. Survey, Columbus, OH.
- Nowak, E., T. Persons, R.J. Platenberg, **Tim B. Graham**. 2002. First-year results for herpetofauna inventories of southern and northern colorado plateau national parks. Unpublished report to Northern Colorado Plateau Network, National Park Service. January 2003.
- Pech, Louis L. and **Tim B. Graham**, Holly Demark, and Jennifer Mathis. 2005. Analysis of beetle assemblages along a vehicle disturbance gradient in Salt Creek Canyon, Canyonlands National Park, UT. pp. 275-284 in C. van Riper III and D. J. Mattson (eds.) *The Colorado Plateau II: biophysical, socioeconomic, and cultural research*. The University of Arizona Press, Tucson, AZ.
- Pech, Louis L. and **Tim B. Graham**. 2007. The first state record for *Trichiorhyssemus riparius* (Horn) (Coleoptera: Scarabaeidae: Aphodiinae) from Utah. *The Coleopterists Bulletin* 61(4):567.
- Platenberg, R.J. and **Tim B. Graham**. 2003. Northern Colorado Plateau Herpetofauna Inventory 2002 Annual Report. Unpublished report to Northern Colorado Plateau Network, National Park Service. January 2003.
- Tuhy, Joel S. and **Tim B. Graham**. 1997. Ecological characterization of the canyon country region: a basis for sustainable land management. pp. 277-285. in L. M. Hill. *Learning from the land: Grand Staircase-Escalante National Monument Science Symposium proceedings*, Cedar City, UT, Bureau of Land Management, Utah State Office, BLM/UT/GI-98/006+1220.
- Wylie, Glenn D., Tim B. Graham, and Mike L. Casazza. 1996. National Biological Service Giant Garter Study: Progress Report for the 1995 field season. unpublished report, Dixon Field Station, California Science Center, National Biological Survey, Dixon, CA. 19pp.
- Wylie, Glenn D., Tim B. Graham, Mike L. Casazza, and Joan K. Daugherty. 1997. National Biological Service Giant Garter Study: Progress Report for the 1996 field season. unpublished report, Dixon Field Station, California Science Center, National Biological Survey, Dixon, CA. 19pp.

Other reports ('grey' literature)

- Graham, Tim B.** 2001. Invertebrate communities and amphibian populations in Salt Creek, Canyonlands National Park, after road closure: relation to past and present 4WD use, and development of potential monitoring programs, 2000 annual report. unpublished report to The Earthwatch Institute, Canyonlands Research Station, SBSC, USGS, Moab, UT, 8pp.
- Graham, Tim B.** 2002. Invertebrate communities and amphibian populations in Salt Creek, Canyonlands National Park, after road closure: relation to past and present 4WD use, and development of potential monitoring

programs, 2001 annual report. unpublished report to The Earthwatch Institute, Canyonlands Research Station, SBSC, USGS, Moab, UT, 14pp.

Graham, Tim B. 2003. Invertebrate communities and amphibian populations in Salt Creek, Canyonlands National Park, after road closure: relation to past and present 4WD use, and development of potential monitoring programs, 2002 annual report. unpublished report to The Earthwatch Institute, Canyonlands Research Station, SBSC, USGS, Moab, UT, 25pp.

Graham, Tim B. 2004. Invertebrate communities and amphibian populations in Salt Creek, Canyonlands National Park, after road closure: relation to past and present 4WD use, and development of potential monitoring programs, 2003 annual report. unpublished report to The Earthwatch Institute, Canyonlands Research Station, SBSC, USGS, Moab, UT, 20pp.

Graham, Tim B. 2005. Invertebrate communities and amphibian populations in Salt Creek, Canyonlands National Park, after road closure: relation to past and present 4WD use, and development of potential monitoring programs, 2004 annual report. unpublished report to The Earthwatch Institute, Canyonlands Research Station, SBSC, USGS, Moab, UT, 22pp.

National Park Service. 2004. Funding the Natural Resource Challenge FY2003 Report to Congress. Park Oriented Biological Support project: "Amphibian habitat fragmentation in Salt Creek, Canyonlands National Park: implications for reproduction and distribution" featured. p. 89.

Presentations

Graham, Tim B. 1990. Effects of acid deposition on the Colorado Plateau: acidification of potholes near Arches National Park, Utah. Paper presented at George Wright Society 1990 Conference, El Paso, TX, 2-5 November 1990. PRESENTED

Graham, Tim B. 1990. Effects of acid deposition on the Colorado Plateau: acidification of potholes near Arches National Park, Utah. Paper presented at 1st Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 22-25 July 1991. PRESENTED

Graham, Tim B. 1997. The Knowles Canyon, Glen Canyon National Recreation Area, hanging garden seven years after burning: changes in vegetation and soil biota. Paper presented at George Wright Society 1997 Conference, Albuquerque, NM, 7-10 March 1997. PRESENTED

Graham, Tim B. 1997. The Knowles Canyon, Glen Canyon National Recreation Area, hanging garden eight years after burning: changes in vegetation and soil biota. Paper presented at 4th Biennial Conference of Research on the Colorado Plateau, Northern Arizona University, Flagstaff, AZ, 6-10 November 1997. PRESENTED

Graham, Tim B. 1997. Grasshopper communities in native and non-native grasslands of the Colorado Plateau: differences in density and species composition. Paper presented at Learning from the Land, Scientific Inquiry for Planning and Managing the Grand Staircase-Escalante National Monument, Cedar City, UT, 4-5 November 1997. INVITED

Graham, Tim B. 1998. Mosquito distribution in potholes: biotic and abiotic influences. Paper presented at 51st Annual Conference of Utah Mosquito Abatement Association, Moab, UT, 5-7 October 1998. INVITED

Graham, Tim B. 1999. Grasshopper communities in native and non-native grasslands of the Colorado Plateau: differences in density and species composition. Paper presented at 1999 Utah Chapter, The Wildlife Society, Ruby's Inn & Bryce Canyon NP, Utah. 18-20 March 1999. INVITED

Graham, Tim B. 1999. Grasshopper communities in native and non-native grasslands of the Colorado Plateau: differences in density and species composition. Paper presented at 1999 Annual Meeting of Ecological Society of America, Spokane, WA, 8-13 August 1999. PRESENTED

- Graham, Tim B.** 1999. Survey of ephemeral pool invertebrates at Wupatki NM: an evaluation of the significance of constructed impoundments as habitat. Paper presented at 5th Biennial Conference of Research on the Colorado Plateau, Northern Arizona University, Flagstaff, AZ, 25-28 October 1999. PRESENTED
- Graham, Tim B.** 1999. Grasshopper communities in native and non-native grasslands on the Colorado Plateau: differences in density and species composition. Paper presented at 5th Biennial Conference of Research on the Colorado Plateau, Northern Arizona University, Flagstaff, AZ, 25-28 October 1999. PRESENTED
- Graham, Tim B.** 2000. The Knowles Canyon, Glen Canyon National Recreation Area, hanging garden eight years after burning: changes in vegetation and soil biota. Paper presented at Spring ecosystems of the North American deserts: Ecology, hydrology, and conservation, Sonora Desert Museum, Tucson, AZ, 5-6 May 2000. INVITED
- Graham, Tim B.** 2001. Pothole communities on the Colorado Plateau: biological and physical correlates to large branchiopod occurrence. Presented at 4th International Large Branchiopod Symposium, La Paz, Mexico, 23-27 January 2001. PRESENTED
- Graham, Tim B.** 2001. Survey of ephemeral pool invertebrates at Wupatki NM: an evaluation of the significance of constructed impoundments as habitat. Presented at 4th International Large Branchiopod Symposium, La Paz, Mexico, 23-27 January 2001. PRESENTED
- Graham, Tim B.** 2001. A preliminary analysis of abundance and size class distribution of Woodhouse toad (*Bufo woodhousii*) in Salt Creek, Canyonlands National Park. Paper presented at 2001 Utah Chapter, The Wildlife Society, St. George, Utah. 21-23 February 2001. PRESENTED
- Graham, Tim B.** 2004. Pothole communities on the Colorado Plateau: biological and physical correlates to large branchiopod occurrence. Paper presented at 5th International Large Branchiopod Symposium, Toodyay, Western Australia, Australia, 16-20 August 2004. PRESENTED
- Graham, Tim B.** 2005. Grasshopper communities in native and non-native grasslands on the Colorado Plateau: differences in density and species composition. Paper presented at the 9th International Orthopterists' Society Meeting, Canmore, Alberta, Canada, 14-19 August 2005. PRESENTED
- Graham, Tim B.** 2006. Monitoring Columbia spotted frogs in Utah: an evaluation of Proportion of Areas Occupied (PAO) as a technique to assess status and trend. Paper presented at Columbia spotted frog rangewide meeting, Salt Lake City, UT, 23-24 March 2006. INVITED
- Graham, Tim B.** and J. Belnap. 1991. Long term monitoring of plant and animal communities in Cañonlands National Park, Arches National Parks and Natural Bridges National Monument. Paper presented at Biodiversity of the Rocky Mountains Symposium, Colorado State University, Ft. Collins, CO, 21-23 July 1991. PRESENTED
- Graham, Tim B.** and B.B. Chomel. 1997. Relationship between population dynamics of the deer mouse (*Peromyscus maniculatus*) and the Sin Nombre virus on the California Channel Islands. Paper presented at George Wright Society 1997 Conference, Albuquerque, NM, 7-10 March 1997. PRESENTED
- Graham, Tim B.** and E. S. Gladney. 1990. Interaction of acid solutions with pothole sediment: changes in pH over time. Paper presented at George Wright Society 1990 Conference, El Paso, TX, 2-5 November 1990. PRESENTED
- Graham, Tim B.** and E. S. Gladney. 1990. Interaction of acid solutions with pothole sediment: changes in pH over time. Paper presented at 1st Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 22-25 July 1991. PRESENTED

- Graham, Tim B.**, L. J. Lingenfelter , K. E. Plengemeier, and M. Ruehmann. 2001. Riparian invertebrate communities of Salt Creek Cañon, Canyonlands National Park: preliminary comparisons among open road, closed road, and no road segments of the cañon. Paper presented at 6th Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 5-8 November 2001. PRESENTED
- Graham, Tim B.** , Wyatt I. Williams, Laura J. Lingenfelter, Kim E. Plengemeier, and Sena Nissen. 2003. Riparian invertebrate communities of Salt Creek Cañon, Canyonlands National Park: spatial and temporal variation of invertebrate communities and the influence of drought or vehicles. Paper presented at 7th Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 3-7 November 2003. PRESENTED
- Graham, Tim B.**, Wyatt I. Williams, Laura J. Lingenfelter , Kim Plengemeier, and Sena Nissen. 2005. Riparian invertebrate communities of Salt Creek, Canyonlands National Park: variability and finding indicator taxa. Paper presented at the George Wright Society Biennial Conference on Parks, Protected Areas, and Cultural Sites, Philadelphia, PA, 14-18 March 2005. PRESENTED
- Graham, Tim B.**, Wyatt I. Williams, Laura J. Lingenfelter , Renata Platenberg, Lori Stenger, Meg Horner, Laura McInerney, Stephen Foldi, Kristina Krock, Burke Greer, Dustin Graves, Maureen MacAuliffe, April Johnson. 2005. Spatial and temporal variation in arthropod communities of Grand Staircase-Escalante National Monument: separating out the influences of weather and livestock grazing on observed patterns. Paper presented at the Grand Staircase-Escalante National Monument Science Forum, Escalante, UT, 9-10 June 2005. PRESENTED
- Graham, Tim B.** and Sarah Foltz. 2006. Community structure of flies in the Grand Staircase-Escalante National Monument: differences in occurrence and abundance at two sites, spring 2000 and spring 2005. Paper presented at Learning from the Land 2006 Science Symposium Grand Staircase-Escalante National Monument, Cedar City, UT, 12-14 September 2006. INVITED
- Graham, Tim B.** and Wyatt I. Williams. 2006. Differences in ant community structure at two sites in Grand Staircase-Escalante National Monument: changes over time in response to drought or anthropogenic disturbances. Paper presented at Learning from the Land 2006 Science Symposium Grand Staircase-Escalante National Monument, Cedar City, UT, 12-14 September 2006. INVITED
- Graham, Tim B.** and Sarah Foltz. 2007. Community structure of flies in the Grand Staircase-Escalante National Monument: differences in occurrence and abundance at two sites, spring 2000 and spring 2005. Paper presented at the 9th Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 5-8 November 2001. PRESENTED.
- Tim B. Graham**, Evelyn Cheng, and Anne Brasher. 2007. Ant communities of the Great Basin: differences among sites and possible influence of Mormon cricket control efforts. Paper presented at the annual Entomological Society of America meeting, San Diego, CA, 9-12 December 2007. PRESENTED.
- Tim B. Graham**, Wright Robinson, and Tim Higgs. 2009. Concentrations of diapausing *Diorhabda elongata* (Coleoptera: Chrysomelidae) in relation to abundance patterns the previous summer and litter characteristics of diapause sites. Paper presented at 2009 Annual Meeting of Ecological Society of America, Albuquerque, NM, 2-7 August 2009. PRESENTED
- Norton, R. A., **Tim B. Graham**, and G. Alberti. 1994. First North American record of *Aquanothrus*, a rotifer-eating oribatid mite from ephemeral pools on the Colorado Plateau. Paper presented at the IXth International Congress of Acarology, The Ohio State University, Columbus, OH, 17-22 July 1994. PRESENTED

- Spence, J., S. Sharpe, K. Hoge, and **T. Graham**. 1994. Floristic composition and biogeography of isolated stands of *Pseudotsuga menziesii* on the Colorado Plateau. Paper presented at the conference Climate Change in the Four Corners Region: Implications for Environmental Restoration and Land-use Planning, 12-14 September 1994. PRESENTED
- Tuhy, Joel S. and **Tim B. Graham**. 1997. Ecological characterization of the canyon country region: a basis for sustainable land management. Paper presented at Learning from the Land, Scientific Inquiry for Planning and Managing the Grand Staircase-Escalante National Monument. Cedar City, UT, 4-7 November 1997. PRESENTED
- Williams, Wyatt, R. Platenberg, and **Tim B. Graham**. 2001. Invertebrates of the Grand Staircase-Escalante National Monument: initial comparisons of sampling effort, and temporal and spatial differences among riparian bench sites. Paper presented at 2001 Utah Chapter, The Wildlife Society, St. George, Utah, 21-23 Feb. 2001. PRESENTED
- Platenberg, Renata J. and **Tim B. Graham**. 2001. Herpetofaunal Inventory of the Northern Colorado Plateau: an assessment of methodology. Paper presented at 6th Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 5-8 November 2001. PRESENTED
- Williams, W. I., **Tim B. Graham**, and R. J. Platenberg. 2001. Invertebrate diversity in riparian and alluvial bench habitats of the Grand Staircase-Escalante National Monument: baseline surveys as allotment management changes. Paper presented at 6th Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 5-8 November 2001. PRESENTED
- Chan, Marjorie A., Gordon Southam, Katrina Moser, Jim M. Davis, and **Tim B. Graham**. 2001. Desert potholes: life in the fast pool. Paper presented at Annual meeting of the Geological Society of America, Boston, MA, 4-10 November 2001. PRESENTED
- Platenberg, Renata J. and **Tim B. Graham**. 2001. A herpetofauna inventory of the Northern Colorado Plateau in Utah: an assessment of methodology. Paper presented at 4th World Congress of Herpetology, Bentota, Sri Lanka, 3-9 December 2001. PRESENTED
- Platenberg, Renata J., **Tim B. Graham**, Gery Wakefield. 2002. A Herpetofauna Inventory of the Northern Colorado Plateau: an assessment of survey completeness. Paper presented at the Annual meeting of the Society for the Study of Amphibians and Reptiles, Kansas City, Missouri, 7-11 July 2002. PRESENTED
- Davis, Jim M., K. Moser, M. A. Chan, **Tim B. Graham** and G. Southam. 2003. Potholes Of The Colorado Plateau: Physical And Chemical Properties Of A Unique Aquatic Environment. Paper presented at American Society of Limnology and Oceanography) meeting Feb 2003, Salt Lake City, UT, 8-14 February 2003. PRESENTED
- Platenberg, R. J. and **Tim B. Graham**. 2003. Herpetofauna inventory of the Colorado Plateau: an assessment of survey completeness. Paper presented at JOINT MEETING, Manaus, Brazil, 26 June-1 July 2003. PRESENTED
- Clausnitzer, D., S. Ogle, D. Pyke, J. Belnap, **T. Graham**, R.L. Sanford, D. Ojima, and S. Phillips. 2003. Interactions of Cattle Grazing and Climate Change on Semi-arid Ecosystem Function. Paper presented at USGS Global Change Conference, Mesa, AZ, 2-4 December 2003. INVITED
- Wright Robinson, **Tim B. Graham**, and Tim Higgs. 2009. Tamarisk beetle (*Diorhabda elongata*) abundance, movements, and impacts on tamarisk in Grand County, Utah 2004–2008. Paper presented at 2009 Tamarisk and Russian Olive Research Conference, Reno, NV, 18-19 February 2009. PRESENTED

Wright Robinson, **Tim B. Graham**, and Tim Higgs. 2009. Tamarisk beetle (*Diorhabda elongata*) abundance, movements, and impacts on tamarisk in Grand County, Utah 2004–2008. Paper presented at 2009 Annual Meeting of Ecological Society of America, Albuquerque, NM, 2-7 August 2009. PRESENTED

POSTERS

Graham, Tim B. 1993. Establishment of *Cora ramosissima* seedlings: impacts of substrate, seedling dispersion, and nurse plants on seedling survival. Poster presented at Wildland Shrub and Arid Land Restoration Symposium, Las Vegas, NV, 19-21 October 1993. PRESENTED

Graham, Tim B. 1993. Establishment of *Cora ramosissima* seedlings: impacts of substrate, seedling dispersion, and nurse plants on seedling survival. Poster presented at 2nd Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 25-28 October 1993. PRESENTED

Graham, Tim B. 2003. Natural vs. man-made ephemeral pools: preliminary analysis of use by two congeneric pairs of fairy shrimp on the Colorado Plateau (and a little beyond). poster presented at 1st International Biogeography Society Meeting, Mesquite, NV, 4-8 January 2003. PRESENTED

Graham, Tim B. 2003. Natural vs. man-made ephemeral pools: preliminary analysis of use by two congeneric pairs of fairy shrimp on the Colorado Plateau (and a little beyond). Poster presented at Expanding the Ark: the emerging science and practice of invertebrate conservation, American Museum of Natural History, New York City, 25-26 March 2004. PRESENTED

Graham, Tim B. 2004. Natural vs. man-made ephemeral pools: preliminary analysis of use by two congeneric pairs of fairy shrimp on the Colorado Plateau. Poster presented at 5th International Large Branchiopod Symposium, Toodyay, Western Australia, Australia, 16-20 August 2004. PRESENTED

Graham, Tim B. 2004. Dispersal of large branchiopod cysts: potential movement by wind from potholes on the Colorado Plateau. Poster presented at 5th International Large Branchiopod Symposium, Toodyay, Western Australia, Australia, 16-20 August 2004. PRESENTED

Graham, Tim B. 2006. Grasshopper communities in native and non-native grasslands on the Colorado Plateau: differences in density and species composition. Poster presented at Ecology in an Era of Globalization: Challenges and Opportunities for Environmental Scientists in the Americas, International Conference, Merida, Yucatan, Mexico, 8-12 January 2006.

Graham, Tim B. 2006. Grasshopper communities in native and non-native grasslands on the Colorado Plateau: differences in density and species composition. Poster presented at Utah Chapter of The Wildlife Society, Moab, UT, 1-3 March 2006.

Graham, Tim B. 2006. Riparian invertebrate communities of Salt Creek, Canyonlands National Park: variability and finding indicator taxa. Poster presented at the 33rd Annual Natural Areas Conference, Flagstaff, AZ, 20-23 September 2006.

Graham, Tim B. 2006. Vehicles in streams: effects of driving through pools on *Bufo woodhousii* (woodhouse toad) egg survival. Poster presented at the 33rd Annual Natural Areas Conference, Flagstaff, AZ, 20-23 September 2006.

Graham, Tim B. 2007. Toad population dynamics in altered semi-arid riparian systems: differences in size class distribution as an indication of chronic riparian/aquatic ecosystem disturbance. Poster presented at Understanding Agriculture's Effects on Amphibians and Reptiles in a Changing World. St. Louis, Missouri, USA, 6-8 February 2007.

Graham, Tim B. and E. S. Gladney. 1990. Interaction of acid solutions with pothole sediment: changes in pH over time. Paper presented at George Wright Society 1990 Conference, El Paso, TX, 2-5 November 1990. PRESENTED

- Graham, Tim B.** and E. S. Gladney. 1991. Interaction of acid solutions with pothole sediment: changes in pH over time. Paper presented 1st Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 22-25 July 1991. PRESENTED
- Graham, Tim B.** and R. W. Meyer. 1992. Observations of a Great Blue Heron rookery: changes in nesting effort over six years. Poster presented at George Wright Society 1992 Conference, Jacksonville, FL., 2-5 November 1992. PRESENTED
- Graham, Tim B.** and R. W. Meyer. 1993. Observations of a Great Blue Heron rookery: changes in nesting effort over six years. Poster presented at 2nd Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 25-28 October 1993. PRESENTED
- Graham, Tim B.,** T. Persons, W. Schaedla, and D. Moore. 1992. Temperature patterns of rattlesnakes (*Crotalus viridis*) at Natural Bridges National Monument, Utah. Poster presented at Annual Ecological Society of America meeting, Honolulu, HA, 9-13 August 1992. PRESENTED
- Graham, Tim B.,** T. Persons, W. Schaedla, and D. Moore. 1993. Temperature patterns of rattlesnakes (*Crotalus viridis*) at Natural Bridges National Monument, Utah. Poster presented at 2nd Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 25-28 October 1993. PRESENTED
- Graham, Tim B.,** G. N. Salamacha, D. Fagan, and M. S. Salamacha. 1992. Population dynamics of birds at Arches National Park, Utah: fluctuations and trends in piñon-juniper woodland 1983-1992. Poster presented at George Wright Society 1992 Conference, Jacksonville, FL, 11-14 November 1992. PRESENTED
- Graham, Tim B.,** G. N. Salamacha, D. Fagan, and M. S. Salamacha. 1993. Population dynamics of birds at Arches National Park, Utah: fluctuations and trends in piñon-juniper woodland 1983-1992. Poster presented at 2nd Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 25-28 October 1993. PRESENTED
- Graham, Tim B.** and R.A. Norton. 1997. Uncharismatic microfauna of the Colorado Plateau: notes on distribution and ecology of an undescribed pothole-dwelling ameronothroid (Acari:Ameronothridae) mite. Poster presented at Learning from the Land, Scientific Inquiry for Planning and Managing the Grand Staircase-Escalante National Monument. Cedar City, UT, 4-5 Nov. 1997. PRESENTED
- Graham, Tim B.** and B. B. Chomel. 1998. Relationship between population dynamics of *Peromyscus maniculatus* and Sin Nombre Virus on the California Channel Islands. Poster presented at the 4th International Conference on HFRS and Hantaviruses. Atlanta, GA, 5-7 March 1998. PRESENTED
- Graham, Tim B.** and Wyatt I. Williams. 2003. Biogeography of ant genera (Hymenoptera: Formicidae) and other invertebrates in riparian and upland habitats on the Colorado Plateau. Poster presented at 1st International Biogeography Society Meeting, Mesquite, NV, 4-8 January 2003. PRESENTED
- Graham, Tim B.,** Wyatt I. Williams, Laura J. Lingenfelter, Kim E. Plengemeier. 2003. Spatial and temporal variation of arthropod communities on the Colorado Plateau: implications for usefulness of invertebrates as indicators of ecosystem condition. Poster presented at 1st International Biogeography Society Meeting, Mesquite, NV, 4-8 January 2003. PRESENTED
- Graham, Tim B.** and Wyatt Williams. 2003. Differences in ant community structure at two sites in Grand Staircase-Escalante National Monument: changes over time in response to drought or anthropogenic disturbances. Poster presented at 7th Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 3-7 November 2003. PRESENTED

- Graham, Tim B.**, Laura J. Lingenfelter, Wyatt Williams, Renata Platenberg, Lori Stenger, and Kim Plengemeier. 2003. Toad population dynamics in altered semi-arid riparian systems: differences in size class distribution as an indication of chronic riparian/aquatic ecosystem disturbance. Poster presented at 7th Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 3-7 November 2003. PRESENTED
- Graham, Tim B.**, Sarah Willbrand Jessica Reilly, and Gery Wakefield. 2003. Implementation of the amphibian research and monitoring initiative on the Colorado Plateau: pitfalls along the way to selecting and defining amphibian habitat. Poster presented at 7th Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 3-7 November 2003. PRESENTED
- Graham, Tim B.**, Wyatt I. Williams, Laura J. Lingenfelter , Kim Plengemeier, and Sena Nissen. 2004. Riparian invertebrate communities of Salt Creek Cañon, Canyonlands National Park: spatial and temporal variation of invertebrate communities and the influence of drought or vehicles. Poster presented at Expanding the Ark: the emerging science and practice of invertebrate conservation, American Museum of Natural History, New York City, 25-26 March 2004. PRESENTED
- Graham, Tim B.**, Wyatt I. Williams, Laura J. Lingenfelter , Kim Plengemeier, and Sena Nissen. 2004. Riparian arthropod communities of Salt Creek Cañon, Canyonlands National Park: spatial and temporal variation in structure, and the influence of drought or vehicles. Poster presented at the 52nd Annual Meeting, Entomological Society of America, Salt Lake City, UT, 14-17 November 2004. PRESENTED
- Graham, Tim B.**, Sarah Willbrand, Jessica Reilly, Gery Wakefield. 2005 The Amphibian Research and Monitoring Initiative on the Colorado Plateau: pitfalls to selecting survey sites. Poster presented at the George Wright Society Biennial Conference on Parks, Protected Areas, and Cultural Sites, 14-18 March 2005. PRESENTED
- Graham, Tim B.** and Wyatt I. Williams. 2005. Ant community structure in Grand Staircase-Escalante National Monument: response to drought or anthropogenic disturbances. Poster presented at the George Wright Society Biennial Conference on Parks, Protected Areas, and Cultural Sites, 14-18 March 2005. PRESENTED
- Graham, Tim B.**, Laura J. Lingenfelter, Sena Nissen, Renata Platenberg, and Kim Plengemeier. 2005. Toad population dynamics in altered semi-arid riparian systems: differences in size class distribution as an indication of chronic riparian/aquatic ecosystem disturbance. Poster presented at the Grand Staircase-Escalante National Monument Science Forum, Escalante, UT, 9-10 June 2005. PRESENTED
- Graham, Tim B.** and Wyatt I. Williams. 2005. Differences in ant community structure at two sites in Grand Staircase-Escalante National Monument: changes over time in response to drought or anthropogenic disturbances. Poster presented at the Grand Staircase-Escalante National Monument Science Forum, Escalante, UT, 9-10 June 2005. INVITED
- Graham, Tim B.** and Wyatt I. Williams. 2005. Ant communities of the Colorado Plateau and Great Basin: comparisons of structure in space and time using genus and functional group classifications. Poster presented at Ecological Society of America Annual Meeting, Montreal, Ontario, Canada, 7-12 August 2005. PRESENTED
- Graham, Tim B.** and Kelly N. Wilson. 2005. Comparison of Orthoptera communities in Salt Creek, Canyonlands National Park: fluctuations over time in open-, closed-, and no-road parts of the canyon. Poster presented at the 9th International Orthopterists' Society Meeting, Canmore, Alberta, Canada, 14-19 August 2005. PRESENTED
- Graham, Tim B.** and Wyatt I. Williams. 2005. Communities of the Colorado Plateau and Great Basin: comparisons of structure in space and time using genus and functional group classifications. Poster presented at 8th Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 7-10 November 2005. PRESENTED

- Graham, Tim B.** and Kelly N. Wilson. 2005. Comparison of Orthoptera Communities in Salt Creek, Canyonlands National Park: Fluctuations over Time in Open-, Closed-, and No-road Parts of the Canyon. Poster presented at 8th Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 7-10 November 2005. PRESENTED
- Graham, Tim B.**, Sarah Willbrand, Jessica Reilly, and Gery Wakefield. 2006. Implementation of the Amphibian Research and Monitoring Initiative on the Colorado Plateau: pitfalls along the way to selecting and defining amphibian habitat. Poster presented at Utah Chapter of The Wildlife Society, Moab, UT, 1-3 March 2006.
- Graham, Tim B.** and Kelly Wilson. 2006. Comparison of Orthoptera communities in Salt Creek, Canyonlands National Park: fluctuations over time in open-, closed-, and no-road parts of the canyon. Poster presented at Utah Chapter of The Wildlife Society, Moab, UT, 1-3 March 2006.
- Graham, Tim B.**, Sarah Willbrand, Jessica Reilly, Gery Wakefield, and Michael J Adams. 2006. The amphibian research and monitoring initiative on the Colorado Plateau: pitfalls to selecting survey sites for the canyonlands mid-level survey area. Poster presented at Society for Northwestern Vertebrate Biology Meeting, Olympia, WA, 27 March-1 April 2006.
- Graham, Tim B.**, Laura J. Lingenfelter, Sena Nissen, Renata Platenberg, and Kim Plengemeier, Matt Van Scoyoc. 2006. Toad population dynamics in altered semi-arid riparian systems: differences in size class distribution as an indication of chronic riparian/aquatic ecosystem disturbance. Paper presented at Learning from the Land 2006 Science Symposium Grand Staircase-Escalante National Monument, Cedar City, UT, 12-14 September 2006. INVITED
- Pierce, B. A., and **Tim B. Graham**. 1990. Acid sensitivity of two pothole-dwelling amphibians in Utah. Poster presented at George Wright Society 1990 Conference, El Paso, TX. 2-5 November 1990. PRESENTED
- Jay, M., B. B. Chomel, **T. Graham**, M. Madon, K. Reilly, D. Sesline, B. Hjelle, B. Eng, P. Rollin, T. Ksiazek, and M. Ascher. 1996. Epidemiology of Hantavirus Pulmonary Syndrome in California and serosurveillance of rodent infection. Poster presented at 1st international Conference on Emerging Zoonoses, November 24-28 1996. PRESENTED
- Galvin, K., **Tim B. Graham**, and K. W. Grandison. 2001. Do fairy shrimp show adaptive predator avoidance behavior? Poster presented at 4th International Large Branchiopod Symposium, La Paz, Mexico. 23-27 January 2001. PRESENTED
- Svendson, D., H. Lease, **Tim B. Graham**, and G. Wakefield. 2001. Implementation of the Amphibian Research and Monitoring Initiative in Canyonlands National Park: sampling framework and first year results. Poster presented at 6th Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 5-8 November 2001. PRESENTED
- Platenberg, Renata J., **Tim B. Graham**, Gery Wakefield, R. Harms, K. Galvin, J. Jones. 2001. Herpetofaunal Inventory of the Northern Colorado Plateau: theoretical vs. actual species lists. Poster presented at 6th Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 5-8 November 2001. PRESENTED
- Platenberg, R. J., **Tim B. Graham**, Gery Wakefield, R. Harms, K. Galvin, J. Jones. 2002. Herpetofaunal Inventory of the Northern Colorado Plateau: theoretical vs. actual species lists. Presented at the Annual meeting of the Society for the Study of Amphibians and Reptiles, Kansas City, Missouri, 7-11 July 2002. PRESENTED
- Clausnitzer, David, David Pyke, Jayne Belnap, Tim B. Graham and Susan Phillips. 2002. Soil enzyme activity gradients in a Great Basin piosphere. presented at 87th Ecological Society of America Annual Meeting, Tucson, AZ, 4-9 August 2002. PRESENTED

- Pech, Louis, L. and **Tim B. Graham**. 2003. Analysis of beetle assemblages along a vehicle disturbance gradient in Salt Creek Cañon, Canyonlands National Park, Utah. Poster presented at 7th Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 3-7 November 2003. PRESENTED
- Platenberg, Renata, and **Tim B. Graham**. 2003. A Herpetofauna inventory of the northern Colorado Plateau: an assessment of survey completeness. Poster presented at 7th Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 3-7 November 2003. PRESENTED
- Adams, Michael J., Wendy H. Wentz, **Tim B. Graham**, R. Bruce Bury, Chauncey W. Anderson, Stephanie K. Galvan, and Chris A. Pearl. 2003. Amphibian Research and Monitoring Initiative in the Pacific Northwest. Poster presented at 24th Annual meeting of the Society of Environmental Toxicology and Chemistry, 9-13 November, 2003. PRESENTED
- Mathis, Jennifer, Louis L. Pech, **Tim B. Graham**, and Holly Demark. 2004. Analysis of beetle assemblages along a vehicle disturbance gradient in Salt Creek Cañon, Canyonlands National Park, Utah. Poster presented at the 52nd Annual Meeting, Entomological Society of America, Salt Lake City, UT, 14-17 November 2004. PRESENTED
- Pech, Louis, L. and **Tim B. Graham**. 2004. *Trichiorhyssenus riparius* (Coleoptera: Scarabaeidae) From Canyonlands National Park, UT. Poster presented at the 52nd Annual Meeting, Entomological Society of America, Salt Lake City, UT, 14-17 November 2004. PRESENTED
- Williams, Wyatt I. and **Tim B. Graham**. 2004. Differences in ant community structure at two sites in Grand Staircase-Escalante National Monument: changes over time in response to drought or anthropogenic disturbance. Poster presented at the 52nd Annual Meeting, Entomological Society of America, Salt Lake City, UT, 14-17 November 2004. PRESENTED
- Pech, Louis L. and **Tim B. Graham**. 2005. Coleoptera and Hymenoptera Diversity in Salt Creek Canyon, Canyonlands National Park, UT. Poster presented at 8th Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 7-10 November 2005. PRESENTED
- Close, Becky, Anne M. D. Brasher, **Tim B. Graham**, Mike Freeman, and Annie Caires. 2006. Mormon cricket control in Utah's West Desert: impacts on non-target arthropod communities and implications for vertebrate species of concern. Poster presented at the 5th National Integrated Pest Management Symposium. St. Louis, MO, 4-6 April 2006. PRESENTED
- Close, Becky, Anne M. D. Brasher, **Tim B. Graham**, Mike Freeman, and Annie Caires. 2006. Mormon cricket control in Utah's West Desert: impacts on non-target arthropod communities and implications for vertebrate species of concern. Poster presented at the 54th Annual Meeting of the North America Benthological Society. Anchorage, AK, 4-9 June 2006. PRESENTED
- Pech, Louis L. and **Tim B. Graham**. 2006. Use of flight-interception traps to monitor beetle diversity in Salt Creek canyon, Canyonlands National Park, UT. Poster presented at the 33rd Annual Natural Areas Conference, Flagstaff, AZ, 20-23 September 2006.
- Pech, Louis L. and **Tim B. Graham**. 2007. Comparing trapping methods for sampling beetle diversity and monitoring effects of off-road vehicles in Salt Creek Canyon, Canyonlands National Park, UT. Poster presented at the 9th Biennial Conference on Research in the Colorado Plateau Parks, Northern Arizona University, Flagstaff, AZ, 5-8 November 2007. PRESENTED.

In prep and Submitted Manuscripts

Graham, Tim B. in prep. Vehicles in streams: effects of driving through pools on *Bufo woodhousii* (Woodhouse toad) egg survival.

Brasher, A. M. D., R. N. Close and **T. B. Graham.** in prep. Aquatic Invertebrates in Springs and Streams of Utah's West Desert: Species Composition and Distribution