CHARLES CRAIG FARQUHAR

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EDUCATION

1986. **Ph.D.** **Texas A&M University**, College Station, TX (Sep. 1982 - 13 Dec. 1986): Wildlife & Fisheries Sciences. Dissertation title: *Ecology and breeding biology of the White-tailed Hawk on the northern coastal prairies of Texas*.

1981. **M.S.** **University of Texas at San Antonio**, TX (27 Aug. 1978 - 11 Aug. 1981): Biology. Thesis title: *Predatory activity patterns and their association with climatic variables in male and female American Kestrels* (Falco sparverius) *wintering in south central Texas*.

1977. **B. A.** **Trinity University**, San Antonio, TX (28 Aug. 1973 - 15 May 1977): Biology.

PROFESSIONAL EXPERIENCE

Research and Technical:

1995-2018 **Endangered Species Grants Coordinator / Avian Ecologist**, full-time. Wildlife Division, Texas Parks and Wildlife Department, Austin, TX.

- Administrated and managed federally funded Section 6 (Endangered Species Act) grant program; 25-30 active grants, annually:
  - Traditional Section 6 (research): $600,000/year, funding 6-8 grants.
  - Nontraditional Section 6 (land acquisitions, habitat conservation plans): $500,000 - $2,000,000/year, funding 1-3 grants.
- Conducted and coordinated conservation biology research on rare, threatened and endangered birds (e.g., Black-capped Vireos, Golden-cheeked Warbler).
- *Species expert*, Raptors, Endangered Species (Golden-cheeked Warbler, Black-capped Vireo) Status Review Panels.

Positions extant, as of 2020:

- *Leader*, Golden-cheeked Warbler Recovery Team.
- *Chair*, Biological Advisory Team, Hays County Habitat

Conservation Plan.
- *Vice Chair*, Science Advisory Committee, Balcones Canyonlands Conservation Plan; City of Austin, Travis County.

1991-1993 **Postdoctoral Research Fellow**, full time. Frank M. Chapman Memorial Research Fellowship, Department of Ornithology, American Museum of Natural History, NY.
- Conducted original field and museum research on ecology and systematics of high Andean raptors: Variable Hawks, *Buteo polyosoma.*

1987 **Necropsy Technician**, full-time. Texas Veterinary Medical Diagnostic Laboratory, College Station, TX,
- Assisted veterinarians with necropsy (mammalian, avian, reptilian), prepared tissue for clinical pathology analyses.

1986 **Curator of Birds**, part-time. Brazos Valley Museum, Bryan, TX.
- Cleaned, repaired, identified, and catalogued approximately 600 preserved bird specimens of neotropical and nearctic distribution.

Teaching:

2017-present **Adjunct Faculty**: part-time. Texas State University, San Marcos, TX (Jan. 2017 – present).
- *Ecology of Rarity* (Bio 4329/5329), and *Raptor Ecology* (Bio 4307/5307) 4 credit-hour undergraduate/graduate Biology majors courses.

2007, 2009 **Adjunct Faculty**: part-time. The University of Texas, Austin, TX (Spring 2007 & Fall 2009).
- *Ecology, Evolution and Society* (Bio 301M), a 3 credit-hour undergraduate non-science majors course. One Assistant Instructor.

1999 **Adjunct Faculty**: part-time. The University of Texas, Austin, TX (Sep. 1997 - Dec. 1999).
- *Biology and Evolutionary Ecology* (Bio 304), a 3 credit-hour undergraduate science majors course. Two Assistant Instructors.

1997a **Adjunct Faculty**: The Academy of Oriental Medicine, Austin, TX (Jul. 1997 - Sep. 1997).
- Taught: *Human Anatomy and Physiology* (WS 101, 102, 103), a 3 credit-hour course for students of Oriental Medicine.

1997b **Adjunct Faculty**: The University of Texas, Austin, TX (Sep. 1997 - Dec 1997).
- *Mammalian Anatomy* (Zoo 314K); 3 credit-hour undergraduate science majors course. Three Assistant Instructors.

1993-1994. **Adjunct Faculty**: The University of Texas, Austin, TX.
- *Biology and Evolutionary Ecology* (Bio 304); 3 credit-hour undergraduate science majors course. Two Assistant Instructors.

1990-1991 **Visiting Assistant Professor**. Southwestern University, Georgetown, TX (Sep. - Dec. 1990; Jan. - May 1991).
- *Vertebrate Zoology;* 4 credit-hour undergraduate majors course.
- *Human Biology*, a 3 credit-hour undergraduate non-majors course.
- *Uniqueness of Life*, a 3 credit-hour undergraduate non-majors course. Two Teaching Assistants per course.

1988-1991 **Lecturer**: part-time. The University of Texas, Austin, TX (Sep. 1988 - May 1990; Jan. - Jul. 1991).
- *Ecology, Evolution and Society* (Bio 301M), a 3 credit-hour undergraduate non-science majors course. Supervising 1 Assistant.

GRANTS

2001-2005 U.S. Fish and Wildlife Service, Section 6, Endangered Species Act. *Breeding Habitat, Distribution and Population Status of the Black-capped Vireo in Northern Mexico.* **$97,500.00.**

2001 U. S. Fish and Wildlife Service. *Habitat use, threats and geographic distribution of the Black-capped Vireo* (Vireo atricapilla) *in the winter range.* **$14,000.00.**

2000 Texas Parks and Wildlife Department. *Population biology and habitat characterization of Black-capped Vireos at Dolan Falls Ranch Preserve, Val Verde County, Texas.* **$25,000.00.**

1999 Texas Army National Guard. *Land Condition Trend Analysis at Camp Swift, and Fort Wolters, Texas.* **$63,000.00.**

1998 Texas Army National Guard. *Land Condition Trend Analysis at Camp Bowie, Brownwood, Texas.* **$48,500.00**

1997a The Nature Conservancy of Texas. *Population monitoring of the Black-capped Vireo at Camp Barkeley National Guard Training Site, Taylor County, Texas, Year 3*. **$12,000.00**.

1997b The Nature Conservancy of Texas. *Population biology and habitat characterization of Black-capped Vireos at Dolan Falls Ranch Preserve, Val Verde County, Texas.* **$925.00.**

1996 The Nature Conservancy of Texas. *Habitat use and productivity of Black-capped Vireos at Dolan Falls Ranch Preserve, Val Verde County, Texas.* **$1700.00.**

1996 The Nature Conservancy of Texas. *Black-capped Vireo work at Camp Barkeley National Guard Training Site, Taylor County, Texas, Year 2.* **$10,000.00.**

1991-1993 Frank M. Chapman Memorial Postdoctoral Research Fellowship, American Museum of Natural History, 27 Mar. 1991. **$75,000** research budget plus two-year salary.

SELECTED SEMINARS

2024 *The Raptor Advantage.* Invited webinar: "Raptor Week." Birding with Texas A&M AgriLife Extension Service. 15 Aug 2024.

2018 *Golden-cheeked Warblers (*Setophaga chrysoparia*): An overview of the recovery process.* San Jose, Costa Rica. VI Annual Meeting of International Partners in Flight and XXI Mesoamerican Society for Biology and Conservation. 1 Nov 2018.

2018 *Raptors of Texas*. San Antonio, Parks and Recreation. Phil Hardberger Park. 21 September 2018.

2017 *Raptors of Texas*. San Marcos. Texas State University Ornithology Society. 17 November 2017.

2017 *Natural History of Golden-cheeked Warblers and Black-capped Vireos*. Marble Falls, TX. Highland Lakes Birding &Wildflower Society, Marble Falls Library. 2 March 2017.

2011 *Raptors of Texas*. Austin. Travis Audubon Society. 15 September 2011.

2009 *Black-capped Vireos in Northern Mexico*. Austin. Annual meeting, Texas Ornithological Society. 24 April 2009.

2008 *Conserving Migratory Species in the International Arena.* Sunset Valley City Hall, Travis County, Texas. 1 March 2008.

2008 *Ornithology: an introduction to basic concepts.* Texas Master Naturalist program. Cameron, Texas. 26 February 2008.

2008 *Texas: State Example of an International Project.* Fourth International Partners In Flight meeting. McAllen, Texas. 12 February 2008.

2006 *Conservation Genetics of the Black-Capped Vireo* (Vireo atricapilla). {Jones, A. W.; Zink, R. M.; Farquhar, C. C.; Gonzales Rojas, J. I.} IV North American Ornithological Conference, Veracruz, Veracruz, Mexico. 7 October 2006.

2006 *Natural History and Conservation of Black-capped Vireos and Golden-cheeked Warblers.* Kerr Wildlife Management Area. 22 April 2006.

2006 *Black-capped Vireos in Northern Mexico*. Travis Audubon Society, Austin, Texas. 20 April 2006.

2005 *Natural History and Conservation of Black-capped Vireos and Golden-cheeked Warbler*s. YO Ranch Elderhostel Group. 16 March 2005.

2004 *New data on Black-capped Vireos breeding in northern Mexico.* Southwestern Association of Naturalists annual meeting. 17 April 2004.

2003 *Conservación de* Dendroica chrysoparia *por parte de Texas Parks and Wildlife Department y Environmental Defense*. VII Congress MesoAmerican Society for Biology and Conservation. Tuxtla, Chiapas, Mexico. 7 Nov 2003.

2003 *Life History of the White-tailed Hawk*. Hawk Migration Association of North America annual meeting, Corpus Christi. 29 March 2003.

2002 *Influence of community succession on brood parasitism and nest depredation in the Black-capped Vireo.* North American Ornithological Conference, New Orleans, Louisiana. 19 Sep 2002.

2002 *Black-capped Vireo* (Vireo atricapillus) *nest success: the influence of shrub diversity, avian host communities and implications for management.* Texas

Chapter, Wildlife Society annual meeting, Corpus Christi. 22 Feb 2002.

2001 *Management and Recovery of Black-capped Vireos: lessons from their southwestern range.* Invited Speaker, Life Science Seminar. Francis Marion University, Florence, South Carolina. 9 Feb 2001.

2000 *Natural History of the Black-capped Vireo in its southwestern range: current knowledge and research needs.* 10th annual U.S./Mexico Border States Conference on Recreation, Parks and Wildlife. Monterrey, Nuevo Leon, Mexico. 16 March 2000.

1998 *Testing the effects of habitat manipulation on an isolated sink population of the federally endangered Black-capped Vireo* (Vireo atricapillus). Co-authored with D. W. Wolfe, J. P. Maresh, P. A. Nguyen. AOU annual meeting, St. Louis, Missouri: April 1998.

1993 *Unreliability of characters traditionally used in separating Red-backed Hawks and Puna Hawks of South America.* AOU annual meeting, Fairbanks, Alaska: June 1993.

1991 *Ecologia e historia natural del gavilán coliblanco* (Buteo albicaudatus). Invited symposium speaker. IV Neotropical Ornithological Congress, Quito, Ecuador: 5 November 1991.

SELECTED PUBLICATIONS AND REPORTS

Farquhar, C.C. In Review (Submitted 24 Jun 2025). *Species as Ontological Parasites in a Thermodynamic and Quantum Universe*. Philosophy, Theory, and Practice in Biology.

Farquhar, C.C. 2024. "Riparian Communities." In, *State of the Devils River Watershed Report*. Meadows Center Report #24-003. C. Thompson, A. Huff, D. Jackson, and S. Wingfield (eds.). The Meadows Center for Water and the Environment at Texas State University. https://devilswatershed.wp.txstate.edu/report/.

Boal, C.W., C.L. Haralson-Strobel, and C.C. Farquhar. 2024. *Breeding ecology of White-tailed Hawks (*Geranoaetus albicaudatus*) on Texas barrier islands*. The Wilson Journal of Ornithology, 136(2) : 237-245

Haralson-Strobel, C.L., C.W. Boal, and C.C. Farquhar. 2020. *Nest site selection of White-tailed Hawks (*Geranoaetus albicaudatus*) on Texas barrier islands. The Wilson Journal of Ornithology* 132:668–677.

Reemts, C.M., C.C. Farquhar, J.R. Ferrato, and R.M. Kostecke. 2020. *Semi-arid shrublands require little on-going management to remain suitable for Black-capped Vireos.* Am. Midl. Nat. 183:78–89

O'Donnell, C.C. Farquhar, J.W. Hunt, K. Nesvacil, J.L. Reidy, W. Reiner, Jr., J.L. Scalise, and C.C. Wren. 2019. *Response to B.A. Collier and M.L. Morrison's Comment on O'Donnell et al.'s Density influences accuracy of model-based estimates for a forest songbird.* J. Field Ornithol. 90(1):93–96.

Farquhar, C.C. 2017. *Commentary: Raptor - evolution of the term.* Journal of Raptor Research. 51(2):172-179.

Vasquez-Miranda, H., K.R. Barr, C.C. Farquhar and R.M. Zink. 2015. *Fluctuating fire regimes and their historical effects on genetic variation in an endangered shrubland specialist*. Ecology and Evolution 5: 5487–5498. DOI: 10.1002/ece3.1811

O'Donnell, L., C.C. Farquhar, J.W. Hunt, K. Nesvacil, J.L. Reidy, W. Reiner, Jr., J.L. Scalise, and C.W. Warren. 2015. *Density influences accuracy of estimates for a forest songbird*. Journal of Field Ornithology. Published online, 3 Sep 2015.

Gonzalez-Rojas, J.I., C.C. Farquhar, M. Guerrero-Madriles, O. Ballesteros-Medrano, and A. Núñez -Gonzalí. 2014. *Breeding Records of Black-capped Vireo (Vireo atricapilla) in Northeastern Mexico.* Wilson Journal of Ornithology 126:151-155.

Zink, R.M, A.W. Jones, C.C. Farquhar, M.C. Westberg, and J.I. Gonzalez Rojas. 2011. *Missing the forest for the gene trees: Conservation genetics is more than the identification of distinct population segments.* The Auk 128:792–794.

Zink, R.M, A.W. Jones, C.C. Farquhar, M.C. Westberg, and J.I. Gonzalez Rojas. 2010. *Comparison Of Molecular Markers in the Endangered Black-Capped Vireo* (Vireo atricapilla) *and their Interpretation in Conservation.* The Auk 127:797–806.

Watson, C., F. Weckerly, J. Hatfield, C.C. Farquhar, and P. Williamson. 2008. *Presence – Nonpresence Surveys of Golden-Cheeked Warblers: Detection, Occupancy, and Survey Effort.* Animal Conservation 11:484-492.

Farquhar, C.C., M.A. Guerrero, O. Ballesteros, and J.I. Gonzalez. 2005. *Breeding habitat, distribution and population status of the Black-capped Vireo in northern*

Mexico. Interim Report (year 2), Section 6 Grant No. E-17. U. S. Fish & Wildlife Service, Austin, Texas.

Farquhar, C.C., and K.L. Ritchie. 2003. *Black-tailed Gnatcatcher (*Polioptila melanura). In The Birds of North America, (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, PA, and The American Ornithologists' Union, Washington, D.C.

Farquhar, C.C., M.A. Guerrero, O. Ballesteros, and J.I. Gonzalez. 2002. *Breeding habitat, distribution and population status of the Black-capped Vireo in northern Mexico.* Interim Report (year 1), Section 6 Grant No. E-17. U. S. Fish & Wildlife Service, Austin, Texas.

Farquhar, C.C. 2002. *The Black-capped Vireo in Texas.* PWD BR W7000-002. Wildlife Diversity Program, Texas Parks and Wildlife Department, Austin, Texas.

Farquhar, C.C. (ed.) 2002. *Golden-cheeked Warbler use of habitat patches on the Kerr Wildlife Management Area.* Final Report, Section 6 Grant No. E-1-9. U. S. Fish & Wildlife Service, Austin, Texas.

Farquhar, C.C., C.A. Baker, B.W. Banks, K.M. O'Connor, and M.S. Pavlas. 2000. *Land Condition-Trend Analysis: Initial Inventory and Plot Establishment*, Camp Swift. Final Report. Wildlife Diversity Program, Texas Parks and Wildlife Department, Austin, Texas.

Farquhar, C.C., C.A. Baker. 2000. *Land Condition-Trend Analysis: Initial Inventory and Plot Establishment,* Fort Wolters. Final Report. Wildlife Diversity Program, Texas Parks and Wildlife Department, Austin, Texas.

Connally, W.S., and C.C. Farquhar. 1998. *Black-capped Vireo Management on Texas Parks and Wildlife Department Parklands.* Final Report, Project No. 3-2, Section 6, U. S. Fish & Wildlife Service. Wildlife Diversity Program, Texas Parks and Wildlife Department. Austin, Texas.

Farquhar, C.C. 1998. Buteo polyosoma *and* B. poecilochrous*, the "Red-backed Buzzards" of South America, are conspecific.* The Condor 100:27-43.

Farquhar, C.C. and J.P. Maresh. 1997. *Population biology and habitat characterization of Black-capped Vireos at Dolan Falls Ranch Preserve, Val Verde County, Texas*. Year Two Final Report. Endangered Resources Branch, Texas Parks and Wildlife Department. Austin, Texas.

Farquhar, C.C., D. Wolfe, W.R. Carr, C. Liu, P. Turner, J.P. Maresh, A.M. Price, M. Whiting, and S. Perry. 1996. *Biological inventory of Texas Army National Guard Training Areas.* Final Report. Resource Protection Division. Texas Parks and Wildlife Department. Austin, Texas.

Wolfe, D.W., C. Liu, W.R. Carr, C.C. Farquhar, M. Goering, J. Maresh, P.A. Nguyen, S. Perry, and G. Rowell. 1996. *Land cover analysis of Texas Army National Guard Training Sites.* Final Report. The Nature Conservancy of Texas. Austin, Texas.

Farquhar, C.C., D. Wolfe, C. Liu, J.P. Maresh, and S. Perry. 1995. *Population Monitoring of the Black-capped Vireo* (Vireo atricapillus) *and Two Rare Orchid Species at Camp Barkeley.* Final Report. Texas Natural Heritage Program, Texas Parks and Wildlife Department. Austin, Texas.

Farquhar, C.C., W.S. Clark, R.G. Wright, and M. Coello. 1993. *First record of interspecific cartwheeling between large raptors:* Buteo poecilochrous *and* Geranoaetus melanoleucus. J. Raptor Res. 28:274-275.

Farquhar, C.C. *Individual and intersexual variation in alarm calls of the White-tailed Hawk.* 1993. The Condor, 95:234-239.

Farquhar, C.C. *White-tailed Hawk,* In, The Birds of North America (A. Poole, P. Stettenheim, and F. Gill, eds.). 1992. The Academy of Natural Sciences, Philadelphia; The American Ornithologist's Union, Washington, DC.

Farquhar, C.C. 1988. *Ecology and breeding behavior of the White-tailed Hawk in Texas*, pp. 306-315, in Proceedings of the symposium and workshop on the management of birds of Prey: Southwestern U. S. (R. L. Glinski, et. al, eds.). National Wildlife Federation, Washington, D. C.

BOOKS

Farquhar, C. C. and C. W. Boal. 2022. *Raptors of Texas.* Texas A&M Press, College Station, TX.

ADJUNCT PROFESSORSHIPS

- Texas State University, San Marcos, Texas (4 M. S.)
- Texas Tech University, Lubbock, Texas (1 M. S.)
- Universidad Autónoma de Nuevo Leon, Monterrey, Nuevo Leon, MX (1 Licenciatura, 2 M.S,, 1 Ph.D)

SPECIAL SKILLS AND INTERESTS

- Fluent in written and spoken Spanish.
- Federal and State (TX) licensed bird-bander (inactive).
- Experience with rehabilitation of injured or diseased raptors.
- Strong command of computer applications: Word, PowerPoint, Excel, ArcGIS, QGIS, various bioacoustical, statistical packages.
- Birding.
- Drawing, illustration.
- Photography.
- Tai Chi.
- Guitar, and music composition.