




Andrew M. Antaya, M.S.

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Education

- 2016 – 2018  **M.Sc., Natural Resources, Wildlife Emphasis, University of Arizona**
Thesis title: *Effects of Human Activity on the Distribution of Desert Bighorn Sheep Along the Border in Southwestern Arizona and Northern Sonora.*
- 2009 – 2013  **B.Sc., Fish and Wildlife Sciences, Wildlife Concentration, Paul Smith's College**
Minor, *Geographic Information Systems (GIS)*

Professional Experience

- 8/2018 – Present  **Research Professional II.** School of Natural Resources and the Environment, University of Arizona, Tucson, AZ.
- 7/2016 – 5/2018  **Graduate Research Assistant (M.S.)** School of Natural Resources and the Environment, University of Arizona, Tucson, AZ.
- 3/2016 – 7/2016  **Associate Wildlife Biologist** School of Natural Resources and the Environment, University of Arizona, Tucson, AZ.
- 4/2015 – 10/2015  **Wildland Firefighter (Seasonal)** U.S. Fish and Wildlife Service, Arizona Fire District, Buenos Aires National Wildlife Refuge, Sasabe, AZ.
- 9/2013 – 5/2015  **Wildlife Technician (Internship)** U.S. Fish and Wildlife Service, Cabeza Prieta National Wildlife Refuge, Ajo, AZ.
- 5/2013 – 9/2013  **Invasive Species Technician (Internship)** U.S. Fish and Wildlife Service, Balcones Canyonlands National Wildlife Refuge, Marble Falls, TX.

Publications

Journal Articles - Peer Reviewed

- 1 **Antaya, A.**, Dalke, A., Mayer, B., Blouin, C., Noelle, S., Blum, B., Beard, J. K., Ruyle, G., & Lien, A. (In Review). Leveraging Virtual Fence GPS Data for Rangeland Management. *Rangelands*.
- 2 Mayer, B., Dalke, A., **Antaya, A.**, Noelle, S., Blum, B., Blouin, C., Ruyle, G., Beard, J. K., & Lien, A. (In Review). Using Virtual Fence to Manage Livestock in Semiarid Ecosystems. *Rangelands*.

Extension Publications - Peer Reviewed

- 1 **Antaya, A.**, Dalke, A., Mayer, B., Noelle, S., Blum, B., Beard, J., Ruyle, G., & Lien, A. (In Prep). Foundations of Virtual Fencing: Strategies for Collar Management.
- 2 Mayer, B., Dalke, A., **Antaya, A.**, Noelle, S., Beard, J., Ruyle, G., & Lien, A. (In Prep). Foundations of Virtual Fencing: Create the Conditions for Virtual Fence Success. *University of Arizona Cooperative Extension*.
- 3 Mayer, B., Dalke, A., **Antaya, A.**, Beard, J., Noelle, S., & Lien, A. (In Review). Livestock and Virtual Fencing: Foundations of Conditioning for Animal Welfare. *University of Arizona Cooperative Extension*.
- 4 **Antaya, A. M.**, Dalke, A., Mayer, B., Blum, B., Beard, J., Blouin, C., Noelle, S., Ruyle, G., & Lien, A. (In Review). Foundations of Virtual Fencing: The Vital Role of High-Quality GIS Data. *University of Arizona Cooperative Extension*.

- 5 **Antaya, A. M.**, Dalke, A., Mayer, B., Noelle, S., Beard, J., Blum, B., Ruyle, G., & Lien, A. (2024). What is Virtual Fence? Basics of a Virtual Fencing System. *University of Arizona Cooperative Extension*.

Scientific Reports - Not Peer Reviewed








- 1 **Antaya, A.**, Mayer, B., Noelle, S., & Ruyle, G. (2022). *Examination of Site Use by Grazing Animals and Effects on Vegetation within the Heber Wild Horse Territory, Arizona, USA*. (Submitted to U.S. Forest Service). University of Arizona. Apache-Sitgreaves National Forest, Heber Wild Horse Territory.
- 2 **Antaya, A.**, Mayer, B., Noelle, S., & Ruyle, G. (2020). *Examination of the Ecological Interactions of Free-Roaming Horses on Montane Riparian Systems of the Apache-Sitgreaves National Forest, Arizona, USA*. (Submitted to U.S. Forest Service). University of Arizona. Apache-Sitgreaves National Forest.
- 3 Blum, B., Noelle, S., Mayer, B., **Antaya, A.**, & Ruyle, G. (2019). *Examination of Behavioral Variation, Site Use and Interspecies Interaction in the Heber Wild Horse Territory, Arizona, USA*. (Submitted to U.S. Forest Service). University of Arizona. Apache-Sitgreaves National Forest.

Presentations, Workshops, Posters

- 1 **Antaya, A. M.**, Mayer, B., Dalke, A., Blouin, C., Noelle, S., Blum, B., Justiniani, H. E., Lien, A., Beard, J., Soto, J., & Ruyle, G. (2023, October 21). *Evaluating Virtual Fence Technology to Improve Rangeland Condition, Enhance Animal Management, and Assess Economic Feasibility*. Conference. Research Insights in Semi-Arid Ecosystems (University of Arizona, Tucson, Arizona, USA).
- 2 **Antaya, A. M.**, Mayer, B., Dalke, A., Blouin, C., Noelle, S., Blum, B., Justiniani, H. E., Lien, A., Beard, J., Soto, J., & Ruyle, G. (2023, August 25). *Virtual Fence Applications on the Santa Rita Experimental Range*. Meeting. Southern Arizona Cattleman's Protective Association (Santa Rita Ranch, Green Valley, Arizona, USA).
- 3 **Antaya, A. M.**, Brennan, J. R., & Menendez, H. M., III (2023, August 7). *From Raw Data Messages to Animal Energetics Models*. Webinar. Agriculture Genome to Phenome Initiative (AG2PI) Workshop 24 (Virtual).
- 4 Mayer, B., **Antaya, A.**, Blouin, C., Noelle, S., & Blum, B. (2023, April 13). *Virtual Fence Technology for Rangeland Livestock – What, How, Why and Should?* Workshop. Northeast Regional Range Livestock Workshop (Holbrook, Arizona, USA).
- 5 **Antaya, A.**, Mayer, B., Blouin, C., Noelle, S., & Blum, B. (2023, March 31). *Virtual Fence Technology for Rangeland Livestock – What, How, Why and Should?* Workshop. Southeast Regional Range Livestock Workshop (Wilcox, Arizona, USA).
- 6 **Antaya, A. M.**, Mayer, B., Blouin, C., Noelle, S., Blum, B., Aaron Lien, Joslyn Beard, Jose Soto, Amber Dalke, Hector Elias Justiniani, & George Ruyle (2023, March 30). *Evaluating Virtual Fence Technology to Improve Rangeland Condition, Enhance Animal Management, and Assess Economic Feasibility*. Poster. Agriculture, Life and Veterinary Sciences, and Cooperative Extension Research Poster Forum (University of Arizona, Tucson, Arizona).
- 7 **Antaya, A. M.** (2023, February 12). *Invited Speaker Virtual Fence Data Workshop*. Workshop. Virtual Fence In-Service Conference (Boise, Idaho, USA).
- 8 Noelle, S., Blouin, C., Mayer, B., **Antaya, A.**, & Ruyle, G. (2023, February 11). *Reflections on Virtual Fencing: Refining a Revolution in Rangelands*. Meeting. Virtual Fence In-Service Conference (Boise, Idaho, USA).
- 9 Blum, B., **Antaya, A.**, Mayer, B., Blouin, C., & Noelle, S. (2023, February 6). *Applications in Virtual Fencing*. Conference. Arizona Section Society for Range Management Winter Meeting (Maricopa Agricultural Experiment Station, Maricopa, Arizona, USA).
- 10 **Antaya, A.**, Mayer, B., Blouin, C., Noelle, S., & Blum, B. (2022, December 7). *Virtual Fence Applications and Considerations for Public Land Managers*. Webinar. USDA Geofencing Summit Webinar (Virtual).



- 11 **Antaya, A.**, Mayer, B., Bluoin, C., Noelle, S., & Blum, B. (2022, December 6). *Virtual Fence Applications and Considerations for Public Land Managers*. Webinar. Kaibab National Forest Range Management Staff (Virtual).
- 12 Mayer, B., **Antaya, A. M.**, Dalke, A., Blouin, C., Noelle, S., Blum, B., Justiniani, H. E., Lien, A., Beard, J., Soto, J., & Ruyle, G. (2022, November 5). *Reflections on Virtual Fencing: Refining a Revolution in Rangelands*. Conference. Research Insights in Semi-Arid Ecosystems (University of Arizona, Tucson, Arizona, USA).
- 13 **Antaya, A.**, Mayer, B., Noelle, S., Bluoin, C., & Ruyle, G. (2022, April 21). *Heber Wild Horse Territory: Examining Use of Forage Resources*. Meeting. Ranching Heritage Alliance (X Diamond Ranch, Eager, Arizona, USA).
- 14 **Antaya, A. M.**, & Ruyle, G. (2020, September 24). *Range Riders as Citizen Scientists*. Conference. Summer Meeting of the Arizona Section Society for Range Management (Virtual).
- 15 **Antaya, A. M.**, & Ruyle, G. (2020, January 21). *Adding Value to Range Rider Programs through Low-Cost, Scalable Citizen Science*. Conference. Winter Meeting of the Arizona Section Society for Range Management (Wickenburg, Arizona, USA).
- 16 **Antaya, A. M.**, Blum, B., Mayer, B., Noelle, S., & Ruyle, G. (2019, February 13). *Free-Roaming Horses in Montane Riparian Areas of Arizona: Examining Use of Forage Resources*. Conference. The Society for Range Management Annual Meeting (Minneapolis, Minnesota, USA).
- 17 **Antaya, A. M.**, Christianson, D., & Coleman, T. (2017, September 27). *Using Occupancy Models to Understand the Effects of Border-Related Human Activity on Desert Bighorn Sheep (Ovis Canadensis Mexicana)*. Poster. The Wildlife Society Conference (Albuquerque, New Mexico, USA).

Scientific Software






- 1 **Antaya, A.**, & Brennan, J. R. (2023). *Python API to retrieve data from Vence Corp. virtual fence collars*. (Version v1.0.0).  <https://github.com/amantaya/Vence-API>
- 2 **Antaya, A. M.**, & Brennan, J. R. (2023). *R, Python, and Jupyter Notebook files for the AG2PI Workshop*. Retrieved February 15, 2024, from  <https://github.com/amantaya/vf-workshop>
- 3 McMullen, L., & **Antaya, A.** (2023). *ArcPy (Jupyter) Notebook to find the optimal location for virtual fence base stations v.0.1.0-alpha*. (Version 0.1.0-alpha).  10.5281/zenodo.8118534.
- 4 **Antaya, A.** (2023a). *R scripts for processing and analyzing camera trap photos and vegetation data from grazing studies*.  <https://github.com/amantaya/grazing-interaction>
- 5 **Antaya, A.** (2023b). *Python API to retrieve data from Vence Corp. virtual fence collars*. (Version v0.1.0-beta).  10.5281/zenodo.8118524.
- 6 **Antaya, A. M.** (2022). *The Rangelands Literature Map of Arizona - A Pilot Project for Place-Based Knowledge* (Version v0.3.2).  <https://amantaya.github.io/RangelandsLiteratureMap/>
- 7 **Antaya, A.** (2022). *grazeR: R package for managing and analyzing data from grazing studies*.  <https://github.com/amantaya/grazeR>

Trainings/Workshops/Certifications







Trainings

- 5/2022  **CyVerse Advanced Container Camp** – Dockerfiles, virtual machines (VM), High Performance Computing (HPC), Introduction to Kubernetes (3 days).
- 3/2021  **CyVerse Container Camp** – Docker Container basics (1 day).

Workshops

- 4/2023  **2023 Research Bazaar – Instructor.** Data science trainings and discussions (4 days).
- 5/2022  **2022 Research Bazaar** – Data science trainings and discussions (4 days).
- 5/2021  **2021 Research Bazaar** – Data science trainings and discussions (4 days).
- 2/2020  **Python Image Processing Workshop** – Machine learning package “scikit-learn” (2 days).
- 2/2020  **Data Wrangling with Python Workshop** – Introduction to shell, git, Python, and Jupyter Notebooks (2 days).

Certifications

- In Progress*  **Azure Fundamentals.** LinkedIn Learning.
- 1/2024  **Human Research – Social and Behavioral Research Investigators** CITI Program. [!\[\]\(44ee86b940d3a0ca166486da8985875e_img.jpg\)](#)
- 7/2023  **SQL Essentials.** LinkedIn Learning. [!\[\]\(72fd141c2b650e3974b4ac376f402874_img.jpg\)](#)
- 7/2021  **Wildlife Research - Lab Animal Research** CITI Program. [!\[\]\(b3585519a49e38e8d8527211b2b955fa_img.jpg\)](#)
- 7/2021  **Working with Cattle in Agricultural Research Settings** CITI Program. [!\[\]\(e44030763054d056f0c2076bb43543da_img.jpg\)](#)
- 7/2021  **Working with the IACUC - Investigators, Staff and Students** CITI Program. [!\[\]\(6a9cf1e556842e523644649bd85d3d25_img.jpg\)](#)

Service

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|-------------------------------------|--|
| Peer Reviewer |  <i>Rangelands, Rangeland Ecology and Management</i> |
| Society for Range Management |  Public Relations Committee Chair, Arizona Section Society for Range Management |
| |  Website Designer and Manager, Arizona Section Society for Range Management |
| |  Public Relations and Media Outreach Committee Chair, Society for Range Management Annual Meeting 2023 Planning Committee |

References

Available on Request