

Jessie S. Shapiro

Spatial Data Scientist

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Education

University of Utah / M.S. Geographic Information Science

Aug 2019 - Aug 2021, Salt Lake City, UT

University of Montana / B.S. Wildlife Biology

Aug 2011 - May 2015, Missoula, MT

University of Montana / GIS Sciences and Technologies Certificate

May 2015 - July 2017, Missoula, MT

Experience

Utah Division of Wildlife Resources / Wildlife Migration GIS Developer

May 2021 - PRESENT, Salt Lake City, UT

Support technical geospatial, data, research and application developments and products for the Wildlife Migration Initiative. Manage, analyze, and visualize big data using cloud computing. Perform research analysis and complete various GIS and research-based projects using R statistical packages, ESRI products, and GCP. Build customized solutions for processing wildlife movements with R Shiny apps.

Utah Division of Wildlife Resources / Wildlife Migration Technician

Oct 2019 - April 2021, Salt Lake City, UT

Maintain, edit and ensure quality control of spatial databases of wildlife locations for the State of Utah. Create programming scripts that detect and repair problems in the data. Assist in the migration of spatial SQL database to the google cloud platform and development of web applications. Map migration corridors and home ranges using Brownian Bridge Movement Model for Utah using R scripts. Prepare GIS data requests for regional staff and partners.

Utah National Guard / Wildlife Technician

April 2019 - Oct 2019, Bluffdale, UT

Developed relational spatial database for raptor and passerine survey. Develop web applications to streamline field data collection. Write and draft technical reports based on passerine demographics, raptor and vegetation surveys. Identify information from analyses that suggest developing patterns of problems or complaints from which general specific trends can be discerned, suggesting a need for further investigation.

University of Idaho / Data Technician

May 2018 - Sept 2019, Remote

Transcribe nesting burrowing owl behaviors. Perform literature searches on North American passerines for comparative analysis of latitudinal patterns in clutch size. Responsible for data management and entry of passerine nest data in MS Access.

City of West Jordan / GIS Intern

Sept 2018 - March 2019, West Jordan, UT

Use a variety of geospatial tools to find, edit, digitize, geo-reference, and display data using ESRI GIS software. Collaborate with management to see technical projects through from conception to completion.

Technical Skills

Databases: Postgres, My SQL, BigQuery, SQL Server, Cloud SQL, MS Access, PostGIS

Languages: SQL, Python, R, Javascript, CSS, HTML

Data Visualization: R

Shiny, R Markdown, Looker Studio, ArcGIS (Experience Builder, Operations Dashboard, Web App Builder), GeoViz, Leaflet, Mapbox

Other Software/Tools:

GCP, R studio, Netlogo, ArcGIS (ArcPro, Survey123, Field Maps, Quick Capture), QGIS, DNRGPS, MS Office, Jupyter Notebook, Google Colabs, Integromat

Certifications

Insights from Data with BigQuery / **Google Cloud Skill Badge**

Oct 2020

Expeditionary Sea Kayaking Navigation and Leadership / **NOLS**

Aug 2013

Expeditionary Glacial Mountaineering Technical Skills / **NOLS**

Aug 2013

Wilderness First Responder / **Aerie & American Heart**

Pennsylvania Game Commission / Wildlife Biologist Aide

Jan 2018 - May 2018, Altoon, PA

Live trap white-tailed deer with drop nets for chronic wasting disease research. Processing deer involves chemical immobilization, deploying radio collars, DNA samples. Interact and build partnerships with landowners.

Western EcoSystems Technology / Biological Technician

March 2017 - May 2017, KS

Conduct aerial surveys from R44 helicopters to locate lesser prairie-chicken leks and ground truthing. Required hours of sitting in a helicopter scanning the landscape for birds, following standardized protocol and data recording.

Colorado Parks and Wildlife / Wildlife Technician

April 2016 - Oct 2016, Craig, CO

Capture, radio-mark and PIT tag females, day-old chicks and 20-day juveniles. Track grouse movement independently with VHF radio telemetry. Cooperate with biologists and game wardens to capture and introduce ruffed grouse from Utah into Colorado.

USGS / Wolf Technician

May 2015 - Oct 2015, Ely, MN

Live trap and chemically immobilized wolves for research. Exercised extreme caution when administering drug dosages. Prepped for unexpected captures. Spent multi-week long canoe trips to reach specific trapping sites.

USFWS / Research Assistant

May 2014 - Aug 2014, Kodiak Island, AK

Monitor nesting biology of Kittlitz Murrelet on Kodiak Island. Tasks included nest searching, monitoring, habitat sampling, growth measurements and extensive GIS and GPS work. Study site conducted out of extreme and isolated conditions, only accessible by helicopter and isolated for 77 days conducting research.

Publications

Kauffman, M., Lowrey, B., Berg, J., Bergen, S., Brimeyer, D., Burke, P., Cufaude, T., Cain, J.W., III, Cole, J., Courtemanch, A., Cowardin, M., Cunningham, J., DeVivo, M., Diamond, J., Duvuvuei, O., Fattebert, J., Ennis, J., Finley, D., Fort, J., Fralick, G., Freeman, E., Gagnon, J., Garcia, J., Gelzer, E., Graham, M., Gray, J., Greenspan, E., Hall, L.E., Hendricks, C., Holland, A., Holmes, B., Huggler, K., Hurley, M., Jeffreys, E., Johnson, A., Knox, L., Krasnow, K., Lockyer, Z., Manninen, H., McDonald, M., McKee, J.L., Meacham, J., Merkle, J., Moore, B., Mong, T.W., Nielsen, C., Oates, B., Olsen, K., Olson, D., Olson, L., Pieron, M., Powell, J., Prince, A., Proffitt, K., Reddell, C., Riginos, C., Ritson, R., Robotcek, S., Roberts, S., Sawyer, H., Schroeder, C., Shapiro, J., Simpson, N., Sprague, S., Steingisser, A., Tatman, N., Turnock, B., Wallace, C., and Wolf, L., 2022, Ungulate migrations of the western United States, Volume 3: U.S. Geological Survey Scientific Investigations Report 2022-5088, 114 p., <https://doi.org/10.3133/sir20225088>.

(In review by *Methods in Ecology and Evolution*) Beaupre, C., Curtis, A., Frankland, B. Hasleth, J. Johnson, A., Van De Kerk, M., Kircher, A., Mao, J., Shapiro, J. Slezak, E., VanNatta, E., Young, J., Blecha, K., 2023, Sample size guidelines for mapping migration corridors and population distributions using tracking data.

Association

Aug 2013

Designated Shooter with Shotgun / **USFWS**

Aug 2013

Leave No Trace Certified Master Educator / **NOLS**

Aug 2013

Groups and Memberships

Webmaster / **Utah Chapter of the Wildlife Society**

2022 - 2024

Corridor Mapping Team/ **USGS**

2021 - PRESENT

Conferences

Where's the Wildlife?

UGIC Conference

Oct 2021

Improving Wildlife Management with GIS

ESRI User Conference

July 2022

Mapping Wildlife Movement in QGIS

UTTWS & CCTWS

Conference

March 2023