



## Justin Brice

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Conservation Biology Institute  
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Justin Brice is a GIS Analyst with 5 years of professional experience applying spatial analysis to help conserve natural landscapes and working lands. He has lived agriculture experience growing up in California's Central Valley on the family walnut farm and holds a B.S. in Wildlife Conservation and minor in Geospatial Sciences from Humboldt State University. With his background in agriculture, wildlife field sampling/surveying work, species distribution, and connectivity modeling, Justin is focused on conserving habitat cores and agricultural lands that act as corridors to allow for wildlife movements. To that end, his recent focus is at the intersection of renewable energy development, protection of valuable farmland, and wildlife conservation as the world races to address our global climate crisis. Collaborative decision support systems will be needed now more than ever so that our decision-makers can have access to a transparent process that allows for scenario planning to make informed decisions using the best available science. Justin is the project manager on several projects involved with the co-production of spatial decision support systems (SDSS) with clients to inform and support decision makers.

Areas of general expertise (other than Geographic Information Systems) include:

- Wildlife Conservation
- Field Sampling and Study Design
- Species Distribution Modeling
- Ecological/Species Connectivity Modeling
- Forest Ecology
- Wetland Ecology
- Rangeland Ecology
- Cartographic Design
- Collaborative Decision Making
- Agricultural Systems
- Landscape Ecology

## EDUCATION

- 2016 Natural Resources Leadership Academy, Collaborative Governance, Oregon State University (Corvallis, OR)
- 2013 B.S. Wildlife Conservation, Minor in Geospatial Sciences, Humboldt State University (Arcata, CA)

## RECENT AWARDS

- 2016 Natural Resources Leadership Academy Certificate Collaborative Governance Track

## EMPLOYMENT HISTORY

- 2015-present GIS Analyst, Conservation Biology Institute, Corvallis OR
- 2014-2015 Volunteer ringtail (*Bassariscus astutus*) telemetry technician, David Wyatt, Sutter Buttes CA
- 2014 Scientific Aid, California Department of Fish and Wildlife, Arcata CA
- 2013 Biological Scientific Aid, US Forest Service, Point Arena CA
- 2012 Small Mammal Trapping Technician, Northern Arizona University, Flagstaff AZ

## PROFESSIONAL SKILLS

Geographic Information Systems, species distribution modeling, connectivity modeling, field sampling, statistical analysis, cartographic design, remote sensing, GPS (in field and in lab), project management, data management.

Software:

ESRI ArcGIS (ModelBuilder, ArcCatalog, ArcMap), QGIS, Google Suite (Docs, Sheets, Slides, etc), Fragstats, MaxEnt, LinkageMapper, Environmental Evaluation Modeling System (EEMS), Data Basin.

## SELECT PROJECT EXPERIENCE

[CBI & AFT work together on water conservation in the San Joaquin Valley](#). Project manager and client relations working with client to co-create a decision support tool (Data Basin map) to identify the best areas for agricultural easements in the San Joaquin

Valley, California. The project includes data processing and management of Data Basin products. The next phase of work starts in 2021.

**Mapping Vegetation on Conservation Reserve Program Land with Remote Sensing and Machine Learning.** Performed pesticide analysis to determine concentrations within a 2km moving window.

**Spatial Inventory and Economic Analysis of Bottomland Hardwood Forest Conservation Reserves: Pilot for the State of Mississippi.** Performed data processing, managed logistics for field sampling in bottomland hardwood forests in Mississippi for two weeks; purchased and readied equipment for the field; conducted forest measurements (tree height with laser rangefinder, species composition in circular plots, density of trees, and basal area); and communication with NRCS county staff and landowners to gain access to Conservation Reserve Program properties.

**Terrestrial Flora Program Support: Rare Plant Monitoring on Naval Base Point Loma and Coronado, CA.** Developed database and report maps to support field work and reports.

**Alaska Yellow Cedar (AYC) gene conservation in Klamath Region (CA and OR).** Field expeditions in southern Oregon and northern California to collect cones and tissue samples from AYC populations at high elevations; creation of report maps using GPS data collected in the field.

**Fort Bragg Headlands Consortium Mapping Project.** Data collection and management; georeferencing of city rezoning scenarios; Data Basin Gallery creation.

**Klamath Basin Ecological Connectivity for Pacific marten and Pacific fisher .** Data collection, management and analysis; prepared input datasets for fisher and marten species models; development of resistance datasets for fisher and marten connectivity models; collected and processed input data; performed connectivity analysis for fisher and marten using Linkage Mapper v2.1Beta5; iterative process examining different settings to best align with biological reality; modified connectivity outputs with a modeled fire risk model to identify sensitive areas within the connectivity network.

**California Regional Conservation Assessments.** Data management and analysis; creation of terrestrial connectivity model for the Modoc Plateau ecoregion utilizing Linkage Mapper v2.xx. Created enhanced resistance surface; used the 1981-2010 average climatic water deficit as our current climate signature to compare with future 2070 to 2099 climatic water deficit to identify corridors and cores that allow for potential species

movement to future suitable areas. Conducted similar data support for West Mojave and Sacramento Valley regions.

**California Offshore Renewable Energy Planning.** Data management and communication with researchers to acquire research datasets; creation and management of Galleries and Maps in Data Basin.

**Co-development of a Regional Conservation Investment Strategy for the Antelope Valley, California.** Data processing; focal species research and species/connectivity model results management; utilized cartographic design to create a map of the final datasets for a community meeting in Lancaster, CA.

**Santa Barbara County Conservation Blueprint: Recreation Vision Plan.** Assumed management of the project and managed client communications and relationships; co-created a dataset of recreation areas in the county with the client. New phase of work starting in 2021.

**Santa Barbara County Conservation Blueprint: Rangeland Fallowing Analysis.** Performed analysis of vineyard and cannabis impacts on rangeland; data collection, analysis and management; developed models using ArcGIS ModelBuilder to identify rangeland loss; worked with client to develop thematic maps for use on Data Basin:

1. All rangeland conversion (1984-2019)
2. Parcels over 100 acres associated with vineyard and cannabis conversion on rangeland
3. “Cattle present” map, showing which parcels do and do not still have grazing
4. Williamson Act parcels that no longer have grazing on them

**Southern California Wetland Recovery Project Marsh Adaptation Planning Tool.** Data collection and management; prepared Data Basin Galleries and Maps; communication with client regarding updates to data and managing the updates across all Galleries and Maps.

## **SELECT PUBLICATIONS**

Gallo, JA, J. Strittholt, G. Joseph, H. Rustigian-Romsos, R. Degagne, **J. Brice**, and A. Prisbrey. 2019. Mapping Habitat Connectivity Priority Areas that are Climate-wise and Multi-scale, for Three Regions of California. Conservation Biology Institute. March 6. <https://doi.org/10.6084/m9.figshare.7477532.v5>

Hudgens, B., C. Wise, **J. Brice** and D. Garcelon. Identifying Movement Barriers for Pronghorn in the Modoc Plateau. Western Section of the Wildlife Society Conference, Yosemite, CA. February 2019. [Poster](#)

Spencer, W., **J. Brice**, D. DiPietro, J. Gallo, M. Reilly, H. Romsos. 2019. Habitat Connectivity for Fishers and Martens in the Klamath Basin Region of California and Oregon. Conservation Biology Institute.  
<https://doi.org/10.6084/m9.figshare.8411909>

**Brice, J.**, R. DeGagne, M. Gough, A. Jacobs, H. Rustigian-Romsos and J. Strittholt. Planning for conservation: A tool for identifying and analyzing species distributions. Ecological Society of America Conference, Portland, OR. August 2017. [Poster](#).

**Brice, J. B.**, A. M. Patrick, and M. A. Colwell. Hot-Spot Analysis of Snowy Plover Breeding in Humboldt County. Annual Conference of the Western Section of The Wildlife Society. Sacramento, CA. January 2013. Poster.

**Brice, J. B.**, D. Barton, and M. Johnson. Effects of Dune Restoration on Small Mammal Abundance. Department of Wildlife Honors Thesis Poster Session 2013. Arcata, CA. May 2013. Poster.