

# DIANE LE BOUILLE

◇ Curriculum Vitae ◇

www.dlebouille.com  
+1 (865) 333-4737  
diane.lebouille@gmail.com

Dept. of Nat. Resources Management  
USGS Cooperative Research Unit  
Texas Tech University

## PROFESSIONAL APPOINTMENTS

<b>Postdoctoral Researcher</b> 2022 - <i>current</i>	USGS / Texas Tech University Lubbock, USA
<b>Adjunct Lecturer</b> 2022 - <i>current</i>	University of Tennessee, Knoxville (remote)
<b>Postdoctoral Researcher</b> 2020 - 2022	Baylor University Waco, USA

## EDUCATION

<b>Ph.D. Student</b> 2014 - 2020	University of Tennessee Knoxville, USA
<b>M.Sc. - Ecology, Biodiversity, Evolution - Specialization in Conservation</b> 2010 - 2012	University P. and M. Curie Paris, France
<b>M.Sc. - Ecology</b> 2009 - 2010	University of Aberdeen Aberdeen, Scotland
<b>B.Sc. - Organismal Biology</b> 2008 - 2009	University of Bordeaux 1 Bordeaux, France

## SKILLS

<b>Programming Languages</b>	Python, R, C/C++, Matlab, VBA
<b>Theoretical knowledge</b>	Ecology, Evolution, Conservation & Restoration Ecology Micro Economics, Natural Resources Economics Mathematical Optimization, Spatial Analysis, Statistics (frequentist and Bayesian)
<b>Ecological software &amp; Tools</b>	GIS tools (ArcGIS, Arcpy) and GPS tracking, Network sciences (Pajek, Netdraw) Data bases (Access, MySQL, dBeaver), Optimization (Maple, GAMS), Markup languages (HTML, CSS, LaTeX), Misc. (Git, Windows/Mac/Linux OS)
<b>Field-Based skills</b>	Fieldwork in strenuous and remote settings, Handling/Marking of vertebrates, Plant and animal systematics

## RESEARCH EXPERIENCE

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### **Niche models and hierarchical prioritization for stream protection**

2022 - current

Postdoctoral research - Jane ROGOSCH

Texas Tech University, Lubbock TX

- Developing species distribution models for at-risk fish species (SGCN)
- Hierarchical spatial prioritization of a conservation network (Native Fish Conservation Areas)
- Coordinate the use of supporting datasets and research products with conservation stakeholders

### **Freshwater conservation and water rights**

2020 - 2021

Postdoctoral research - Ryan McMANAMAY

Baylor University, Waco TX

- Relating U.S. stream and lake network structures with likelihood of zebra and quagga mussels establishment
- Comparing flow recommendations and current inflow conditions across Texas's major basins, in relation to present and projected water use and withdrawal laws

### **Costs of Protected Areas in the U.S.**

2014 - 2020

PhD Dissertation - Paul ARMSWORTH

University of Tennessee, Knoxville

- Describing and explaining the spatial and temporal variations in conservation costs and funding for protected areas across the U.S.

### **Behavioural Shifts and Human Avoidance in Wolves**

2012 - 7 months

Master Thesis 2 - Luigi BOITANI, Paolo CIUCCI

University of Rome, Italy

- Activity budgets and movement patterns of GPS-collared wolves in the Abruzzo, Lazio and Molise National Park (central Italy) in relation to human activity in the park

### **Road Kill Risk Assessment and Snake Conservation**

2011 - 6 months

Master Thesis 1 - Jean CLOBERT, Xavier BONNET

CNRS Labs of Moulis (Eco-Ex) and Chize (CEBC), France

- Demographic study of snake populations in France by mark-capture-recapture, assessing population movements and deriving conservation measure - seasonal road closures

### **Metapopulation Dynamics and Generational Dispersal in Water Voles**

2010 - 3 months

Graduate Research Project - Xavier LAMBIN

University of Aberdeen, Scotland

- Characterisation of Highland water vole dispersal network within and among metapopulations using kinship analyses and network science

### **Sex-biased Dispersal During Range Advance**

2010 - 6 weeks

Graduate Research Project - Justin TRAVIS

University of Aberdeen, Scotland

- Modelling the erosion of sex-biased dispersal at the advancing range edge for an invasive species - theoretical modelling, Australian Cane Toads used as case study

### **Acid Rains and Erosion of Biodiversity in French Prairies**

2009 - 3 months

Undergraduate Thesis - Didier ALARD, Emmanuel CORCKET

University of Bordeaux 1, France

- Impacts of nitrogen atmospheric pollution on prairies in the S-W of France. Direct species counts and greenhouse germination, growth and survival rates experiments.

## PUBLICATIONS

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- **Le Bouille D.** and Armsworth P. (2023) *The cost of buying land for protected areas in the United States*. Biological Conservation
- **Le Bouille D.**, Armsworth P. and Fargione J. (2022) *Spatio-temporal variation in costs of managing protected areas*. Conservation Science and Practice

- Hyman A., **Le Bouille D.**, Zhu G. and Armsworth P. (2022) *Variation in preferences describing how to value the future among conservation practitioners and its implications for today's protection priorities*. Biological Conservation
- Pinnschmidt A., Hoogstra M., Fovargue R., **Le Bouille D.**, Fisher M., Harris J., Armsworth P. (2021) *Land trust investments in land protection may increase philanthropic giving to conservation*. Ecological Economics
- Armsworth P., Benefield A., Dilkina B., Fovargue R., Jackson H., **Le Bouille D.** and Nolte C. (2020) *Allocating resources for land protection using continuous optimization: biodiversity conservation in the United States*. Ecological Applications

#### MANUSCRIPTS IN REVIEW

1. Armsworth P., Dilkina B., Fargione J., Fisher M., Fovargue R., Harris J., Jackson H., **Le Bouille D.**, Nolte C. and Richards C. (2023) *Multiplying the impact of biodiversity conservation funding using spatial exchange rates*. Conservation Letters

#### MANUSCRIPTS IN PREPARATION

1. **Le Bouille D.** and Armsworth P. (2023) *Predicting bargains sales occurrence and magnitude in land transactions for conservation in the U.S.*
2. **Le Bouille D.** and McManamay R. (2024) *Analysis of flow standards and recommendations in Texas rivers*
3. **Le Bouille D.** and Powers S. (2024) *Can network topology of freshwater systems predict the risk of invasion?*

#### BOOK CHAPTER

Lambin X., **Le Bouille D.**, Oliver M.K., Sutherland C., Tedesco E. and Douglas A. (2012) *High connectivity despite high fragmentation: iterated dispersal in a vertebrate metapopulation*. In: Dispersal Ecology and Evolution (chap. 32) Clobert et al. Editors, Oxford University Press.

### AWARDS AND FELLOWSHIPS

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2020 to 2022 - PNNL, Integrated Multisector Multiscale Modeling initiative	\$7,000
2019 - NIMBioS Graduate Awards - Competitive, Project-Based Award	\$2,500
2015 to 2019 - UT Competitive Yearly Research Awards and Project-based Travel Grants	\$5,000
2015 to 2019 - Chancellor Funds - Based on Application and Research Proposal Merit	\$25,000
2017 to 2018 - NIMBioS Graduate Research Assistant Fellowship	\$50,000
2012 - Six-Month Scholarship for MSc Research Project and Thesis	Equiv. \$3,300
2010 to 2012 - French Governmental Grant - Merit Based, Gov. Sponsorship for MSc	Equiv. \$10,000
2009 to 2010 - Erasmus Waivers and Scholarship to Study Abroad - U. of Aberdeen	Equiv. \$31,500

### CONFERENCES AND PRESENTATIONS

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#### SYMPOSIUM

- NACCB 2022 - Le Bouille D. and Nolte C., Strategies to Estimate the Costs of 30x30 Protection Actions Over Large Scales in the United States: Approaches, Standards and Evidence

#### PRESENTATIONS

- ESA 2023 - Le Bouille D. et al., Species distribution modeling of Texas SGCN fishes to guide landscape-level conservation.
- AFS, TX Chapter 2023 - Le Bouille D. and Rogosch J., Species distribution modeling and projecting shifts in a changing world.
- ESA 2021 - Le Bouille D. and McManamay R., Analysis of Flow Standards and Recommendations in Texas Rivers
- ESA 2019 - Le Bouille D., Armsworth P. and Fargione J., What drives the cost of U.S. conservation?

- NACCB 2018 - Le Bouille D., Armsworth P. and Fargione J., Accurate acquisition cost prediction for optimal reserve planning
- ESA 2016 - Le Bouille D. and Armsworth P., The real cost of acquiring lands for conservation
- NACCB 2016 - Le Bouille D. and Armsworth P., Investigating the dynamic patterns of management costs in protected areas
- ESA 2015 - Le Bouille D., Armsworth P. and Iacona G., The time path of investments for the management of protected areas

#### WORKSHOPS

- NIMBioS 2019-2020 - Workshop Facilitation for NIMBioS International Working Groups

## TEACHING EXPERIENCE

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### Adjunct Lecturer

EEB Department

2022 - current

University of Tennessee, Knoxville

- Landscape Ecology - EEB 422
- Conservation Decision Making - EEB 423
- Conservation Biology - EEB 484
- Perspective in Eco. and Ev. Bio. - EEB 409

### Teaching Assistant

EEB Department

2015-2020

University of Tennessee, Knoxville

- Mathematical Models in Biology - EEB/MATH 406
- GIS and Niche Modeling - EEB/GEO 550
- Research Ethics - PHILO/EEB 504
- Organismal and Ecological Biology, Hons. - BIO 158
- Cell Biology - BIO 140

#### EXTRA TRAINING AND CERTIFICATIONS

Associate Level of CIRTL certification (Summer 2017) + Best Practices in STEM Teaching (Fall 2016)

## RESEARCH SUPERVISION AND MENTORING EXPERIENCE

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### Research Supervision

USGS-TTU Coop. Research Unit

2023

Texas Tech University, Lubbock

- David Creamer - Master Student (now PhD Student East Carolina University)
- Cienna Hanson - Master Student (graduating 2024)

### Academic Mentoring

EEB Department

2018-2020

University of Tennessee, Knoxville

- Undergraduate Mentoring Program
- Women in STEM Mentoring Group

#### EXTRA TRAINING AND CERTIFICATIONS

Science Communication and Policy - ESA (Spring 2020) + ORI Research Ethics Certification (Spring 2017)

## OUTREACH AND SYNERGISTIC ACTIVITIES

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### **Waco Backyard Farming Association**

2023-current - *Local Association*

Bringing bio-diverse backyards, sustainable gardening and food security to all through grass-root, community lead efforts.

- ◇ Group creator, Event Leader

### **TX A&M AgriLife Extension - Waco (TX)**

2023-current - *McLennan County*

- ◇ Master Gardener

### **Volunteering - Waco (TX)**

2022 - *After-School Program*

Homework help and enrichment activities offered to underprivileged youth in Waco

- ◇ STEM Instructor

### **EKEE - University of Tennessee**

2015-2019 - *Graduate Outreach Committee*

Outreach activities in zoos, farmers' market, fairs

- ◇ Head of Tabling Events

### **KidsU - University of Tennessee**

Summer 2019 - *Learning Summer Camp*

Class Design, Teaching, Field Trips - Age 9-12

- ◇ Teacher, Activity Leader

### **UT's Darwin Day - University of Tennessee**

2018 - *Science Communication Event*

Advertisement and material creation

Design of activities, Open seminars organizer

- ◇ Event Organizer

### **Naturalist Organization Timarcha - UPMC, Paris**

2011-2012 - *Graduate Organization*

- ◇ Board Member, Event Leader

## PROFESSIONAL ACTIVITIES AND SERVICES

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### **Manuscript Review**

for Conservation Letters, Ecological Applications,  
J. of Environmental Management, Biological Conservation

### **University Services**

Departmental Senator - UTK Graduate Student Senate  
Vice President - Baylor University Postdoc Association

### **Professional Membership**

Ecological Society of America (ESA), Society for Conservation Biology (SCB),  
French Society for Ecology and Evolution (SFE<sup>2</sup>)

## LANGUAGES

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### **English**

Fluent

### **French**

Native

### **Spanish**

Working Proficiency