Data Management Plan

Name of Contractor: University of Montana
Name of the Project: Evaluating Wildlife Use of the South Jackson Project Highway Crossing Structures: Project Phase I
Project Duration: Start Date: 2019 End Date: 2023
DMP Version: 1
Date Amended, if any:
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WYDOT Project Number: WY2307F

I. Introduction

Definitions

a) Code or scripts include code used in the collection, manipulation, processing, analysis or visualization of data, but may also include software developed for other purposes.
b) Copyright is a set of legal rights extended to copyright owners that govern such activities as reproducing, distributing, adapting, or exhibiting original works fixed in tangible forms.
c) Data means the recorded factual material commonly accepted in the scientific community as necessary to validate research findings, but not any of the following: preliminary analyses, drafts of scientific papers, plans for future research, peer reviews, communications with colleagues. Recorded material excludes physical objects (e.g. laboratory samples). Research data also does not include trade secrets, commercial information, materials necessary to be held confidential, and personnel and medical information, including information that falls under the HIPAA and PII confidentiality impact levels, and similar information the disclosure of which would constitute a clearly unwarranted invasion of personal privacy. Any information that falls under this definition shall not be considered open source and shall not be publically available, Data Archive is a site where machine-readable materials are stored, preserved or possibly redistributed to individuals interested in the materials.
d) Data Management Plan is a document that specifies your plans for managing your data and files for a research project.
e) Dataset means collection of data.
f) Metadata refers to structured data about data that helps define administrative, technical, or structural characteristics of the digital content.

II. The purpose of this research project is to:

Evaluate wildlife use of the wildlife crossing structures constructed as part of Phase I of the South Jackson Project along Highway 89. While not an initial objective, this project additionally

addressed changes in wildlife-vehicle collisions relative to the South Jackson Project.

III. Data Types and Storage

The types of data and/or datasets generated and/or used in this project include the following:

1. A dataset of the interpretation of each photo taken by a wildlife camera trap set up at a wildlife crossing structure. There is one line of data for each photo with photo ID from as a field ("WYDOT_SJacksonP1_NO_HUMANS_24Oct2023.csv",CSV format), such that individual photos could be requested from WYDOT Environmental Services based on information from this dataset. Associated metadata file: "WYDOT_SJacksonP1_photo_metadata", CSV format.

2. R software script for converting from data type 1 to 3: "WYDOT_SJP1_photos_to_groups.R". Software program R is required to run this script.

3. A dataset of wildlife crossing events representing an aggregation of camera trap photo data in (1) into independent wildlife underpass use events ("Final_WYDOT_P1_CrossingDat_2023-05-30", CSV format). Associated metadata file: "Final_WYDOT_P1_CrossingDat_metadata", CSV format.

4. Jackson Hole Wildlife Foundation. 2023. Teton County Wildlife-Vehicle Collision Database (2022). Jackson Hole Wildlife Foundation, Jackson, WY. Inquiries into this dataset should be directed towards: info@jhwildlife.org

The original photos and datasets 1-3 from this project are held by the Wyoming Department of Transportation Environmental Services Program.

IV. Data Organization, Documentation, and Metadata

The plan for organizing, documenting, and using descriptive metadata to assure quality control and reproducibility of these data includes:

- All data files (.csv format) are accompanied by a metadata file with a description of each variable.
- Program R code used to group camera photos into wildlife crossing events is included, with annotation.

V. Data and/or Database Access and Intellectual Property

Camera photos that include people have been excluded from datasets per standard confidentiality standards, as stated in the project proposal.

Datasets could be accessed by contacting the Wyoming Department of Transportation Environmental Services Program and referencing the project name.

VI. Data Sharing and Reuse

Wyoming Department of Transportation Environmental Services Program holds and stewards the data products from this project and is the entity required to provide permission to use and copies of described data. The report associated with this project should be cited upon reference to the associated data.

VI. Data Preservation and Archiving

Wyoming Department of Transportation Environmental Services Program retains and stewards copies of the data products. Copies of the data products are also held by collaborating researchers from University of Montana (Specht & Millspaugh), though Wyoming Department of Transportation has discretion over data sharing.

VII. Generative Artificial Intelligence (AI) Tools

AI has not been used in this project.

VIII. Metadata Schema

The below metadata schema has been included in the metadata corresponding to each dataset and within the R script.