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Chronic Wasting Disease in Utah - development of a risk based CWD surveillance system with updates for the statewide CWD management plan

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DATA MANAGEMENT PLAN

Project and Contact Information

Project Title: Chronic Wasting Disease in Utah – development of a risk based CWD surveillance system with updates for the statewide CWD management plan (UT RWO#71).

USGS Program: Cooperative Fish and Wildlife Research Units Program, Utah

Summary Description: Chronic Wasting Disease (CWD) is a fatal, neurodegenerative disease of deer, elk, and moose caused by prions that can cause significant declines in cervid populations. Preventing spread of CWD to new areas and keeping prevalence low in infected areas are therefore of highest priority for wildlife management agencies.

Statewide, the UDWR has established a rotational CWD sampling plan with an objective to sample mule deer in all WMU's, and elk and mule deer in positive WMU's. Sample efforts are designed to be able to detect $\geq 1\%$ prevalence of CWD with 95% confidence. Currently, the positive WMU's are sampled annually, whereas the WMU's considered free of CWD are sampled every 5 years on average. Now that CWD is established in three areas of the state, a more risk based approach is warranted in order to inform management activities and enable early response if CWD is found in new areas.

The existing CWD surveillance data needs to be expanded and combined with information on cervid movements, habitat use, and landscape factors in order to understand the most likely paths of CWD spread, and provide the foundation for creating a revised, scientifically sound, risk based CWD surveillance system. Evaluating current and past CWD data and creating a comprehensive risk map for the state will serve to better understand what is currently known, identify high risk locations for CWD spread, help prioritize areas for sampling, and formulate appropriate management actions or alterations that should be considered in order to slow the spread of the disease.

Starting Date: Date of final signature

Ending Date: 28 June 2022

Additional Information: "None"

Main CRU Point of Contact: Erica Stuber, UTCFWRU, 402.419.3896

Alternate USGS or CRU Point of Contact: Phaedra Budy, UTCFWRU, 435.797.7564

Funding Agency Collaborators (USGS and/or external): Lee C. Jones, U.S. Fish and Wildlife Service Wildlife Health Office, 406.587.2169

2. Description of Data

This effort creates no new primary data. Data that the prospective postdoctoral associate will analyze come from the Utah Division of Wildlife Resources (UDWR) and include previously

collected locational data in spreadsheet format (excel; gps coordinates of individual collared mule deer, locations of CWD positive collected samples), and wildlife management unit-scale summaries of population parameters: e.g., annual average survival rates.

3. Metadata Content and Format

All spatial products generated will have associated metadata created following the recommendations of the Federal Geographic Data Committee:

<http://www.fgdc.gov/metadata/documents/MetadataQuickGuide.pdf>. Metadata will be generated from one of many possible tools, depending on data characteristics, such as the function `spMetadata-methods` (R package: `plotKML`) or the USGS Online Metadata Editor (OME) <https://www1.usgs.gov/csas/ome/>.

4. Long-term Storage and Archival

Data will be delivered to PI Stuber, and subsequently the prospective postdoc, by UDWR. PI Stuber will maintain local archives of UT CWD-related data at her host institution: Utah State University, Logan, UT on at least two segregated systems.

5. Compliance Policies for Data Access, Sharing, and Re-use

No ethical, privacy or copyright issues are foreseen regarding the extant spatial data used in this proposal. All data including raw, extant, georeferenced location data on individual mule deer and CWD positive sampling locations are under the direction of the Utah Division of Wildlife Resources and cannot be released by the PI (Stuber) except with permissions of the UDWR. E. Stuber requests that intellectual publication rights remain with the project for up to a maximum of 18 months post-project completion for scientific publication purposes.