

—Readme—

Veterinary Data Package: Lead in Bald Eagles in the Northeast United States

Cornell Wildlife Health Lab,
Animal Health Diagnostic Center,
College of Veterinary Medicine,
Cornell University
Ithaca, New York, USA

Project Contacts:

Krysten Schuler, ks833@cornell.edu (permanent)
Elizabeth Bunting, emb54@cornell.edu (permanent)

Name of the Project at Cornell:

Lead in Bald Eagles. <https://cwhl.vet.cornell.edu/tools/eaglepopd>.

Location of the Project at Cornell University:

Wildlife Health Lab
Animal Health Diagnostic Center
College of Veterinary Medicine
240 Farrier Road,
Ithaca, New York, USA 14850
(607) 253-3900
<https://cwhl.vet.cornell.edu/>

Species Described in this Data Package:

Bald Eagle (*Haliaeetus leucocephalus*)

Dates of Veterinary Records Contained in this Data Package:

1963-2019

Study Area of Veterinary Records Contained in this Data Package:

Northeast United States (the states of Connecticut, Maine, Massachusetts, New Jersey, New Hampshire, New York, and Vermont).

Overview of this Data Package:

This package constitutes the veterinary data used to assess the population scale impacts of lead toxicosis on Bald eagles (*Haliaeetus leucocephalus*) in the Northeast United States from 1990-2018. This packet contains two folders of veterinary data, each representing a step in the analytical process: (1) the standardized veterinary data folder; (2) the final veterinary data folder. Standardized data constitutes records of eagles that arose from the cleaning and standardization of data that originated in raw forms at regional veterinary facilities (Avian Haven Wild Bird Rehabilitation Center 2021; Cummings School of Veterinary Medicine 2021; University of New Hampshire 2021; United States Geological Survey

National Wildlife Health Center 2021; Wildlife Health Center of Virginia 2021). The final data constitutes the tabulation of eagle mortalities that arose from lead-related causes of death.

Standardized Veterinary Data Folder

Data sets titles include:

- *Cleaned And Standardized Bald Eagle Case Reports From Maine, USA, 2012-2019*
- *Cleaned And Standardized Bald Eagle Case Reports From Massachusetts, USA, 2013*
- *Cleaned And Standardized Bald Eagle Case Reports From The Northeastern USA, 2012-2017*
- *Cleaned And Standardized Bald Eagle Case Reports From The Northeastern USA, 1991-2018*
- *Cleaned And Standardized Bald Eagle Case Reports From The United States, 1963-2014*

While used in the analysis, the standardized data folder omits the veterinary data sourced from two New York-based providers, the New York State Department of Environmental Conservation, and the Animal Health Diagnostic Center in the College of Veterinary Medicine at Cornell University. Raw and standardized records from these providers can be obtained upon request by contacting the Wildlife Health Unit in the Bureau of Wildlife at the New York State Department of Environmental Conservation. The Wildlife Health Unit may be contacted by calling (518) 478-2203, (518) 478-3034, or by emailing wildlife@dec.ny.gov and asking for a response from the Wildlife Health Unit.

Final Veterinary Data Folder

These data constitute records of Bald eagles (*Haliaeetus leucocephalus*) that arose from the tabulation of eagle mortalities in the standardized data. Files include:

- *Final Veterinary Records For Bald Eagles In The Northeast, USA*

While used in the analysis, the data omits detailed veterinary data sourced from two New York-based providers, the New York State Department of Environmental Conservation, and the Animal Health Diagnostic Center in the College of Veterinary Medicine at Cornell University. New York records can be obtained upon request by contacting the Wildlife Health Unit in the Bureau of Wildlife at the New York State Department of Environmental Conservation. The Wildlife Health Unit may be contacted by calling (518) 478-2203, (518) 478-3034, or by emailing wildlife@dec.ny.gov and asking for a response from the Wildlife Health Unit.

Technical Details

The data in the *Standardized Veterinary Data Folder* were created in Microsoft Excel for Microsoft 365 MSO (16.0.13530.20368) 64-bit, converted to comma separate variable format for preservation.

The data in the *Final Veterinary Data Folder* were created in Microsoft Excel for Microsoft 365 MSO (16.0.13530.20368) 64-bit, converted to comma separate variable format for preservation.

Original Source for the Veterinary Data:

This finalized veterinary data contains veterinary information that has been converted *post hoc* from its standardized form. The standardized veterinary records were themselves converted *post hoc* from their raw form.

Raw records from Maine, USA can be cited as

Avian Haven Wild Bird Rehabilitation Center. 2021. *Avian Haven Bald Eagle Case Reports 2012-2019*. Freedom, Maine [Dataset]. Cornell University Library eCommons Repository. <https://doi.org/10.7298/qg9d-9p17>.

Raw records from Tufts University, Massachusetts, USA can be cited as Cummings School of Veterinary Medicine. 2021. *Tufts Bald Eagle Case Reports 1991-2019*. Tufts University. North Grafton, Massachusetts [Dataset]. Cornell University Library eCommons Repository. <https://doi.org/10.7298/6by1-j636>.

Raw records from the University of New Hampshire, New Hampshire, USA can be cited as University of New Hampshire. 2021. *New Hampshire Veterinary Diagnostic Laboratory Bald Eagle Case Reports 2013-2017*. University of New Hampshire. Durham, New Hampshire [Dataset]. Cornell University Library eCommons Repository. <https://doi.org/107298/m8yz-1r93>.

Raw records from the Wildlife Health Center of Virginia can be cited as Wildlife Health Center of Virginia. 2021. *Wildlife Health Center of Virginia Bald Eagle Case Reports 2011-2017*. WILD-ONE. Waynesboro, Virginia [Dataset]. Cornell University Library eCommons Repository. <https://doi.org/107298/hyyc-ws65>.

Raw records from United States Geological Survey National Wildlife Health Center can be cited as The United States Geological Survey National Wildlife Health Center. 2021. *National Wildlife Health Center Bald Eagle Data 1963-2014*. Retrieved on Oct. 15, 2018 from the Wildlife Health Information Sharing Partnership event reporting system on-line database, <https://whispers.usgs.gov>. National Wildlife Health Center, Madison, Wisconsin [Dataset]. Cornell University Library eCommons Repository. <https://doi.org/10.7298/jn80-e080>

Raw veterinary data sourced from two New York-based providers, the New York State Department of Environmental Conservation and the Animal Health Diagnostic Center in the College of Veterinary Medicine at Cornell University are not posted. These records are available upon request by contacting the Wildlife Health Unit in the Bureau of Wildlife at the New York State Department of Environmental Conservation. The Wildlife Health Unit may be contacted by calling (518) 478-2203, (518) 478-3034, or by emailing wildlife@dec.ny.gov and asking for a response from the Wildlife Health Unit.

Permits:

The conversion of raw data to standardized and final form by project collaborators at Cornell University did not involve any experimental procedures on live animals nor did the authors of this data collect, euthanize, and/or donate the specimens to a museum collection. Thus, these data and their use did not require personnel at Cornell University to attain for this project an Institutional Animal Care and Use Committee protocol.

The necropsies used to generate the raw veterinary data, however, were conducted at the facility of origin, where the gross pathology professionals adhered to sound ethical and animal welfare principles, including compliance with all applicable federal, state, and local regulations. Permit numbers and details of the raw data collection protocols may be attained by contacting the data source facility directly:

Avian Haven Wild Bird Rehabilitation Center (2012-2019 Maine, USA data)
418 N Palermo Road
Freedom, Maine, USA 04941
(207) 382-6761
<http://avianhaven.org>

University of New Hampshire (2013 Massachusetts, USA data)
New Hampshire Veterinary Diagnostic Laboratory
21 Botanical Lane
Durham, NH 03824-3590
Phone:(603) 862-2726
Fax:(603) 862-0179
<https://www.nhvdl.unh.edu>

Cummings School of Veterinary Medicine (1991-2018 Northeastern USA data)
Tufts University
200 Westboro Road
North Grafton, Massachusetts, USA 01536
(508) 839-5302
<https://vet.tufts.edu>

Wildlife Health Center of Virginia (2012-2017 Northeastern USA data)
1800 Delphine Avenue,
Waynesboro, Virginia, USA 22980
(540) 942-9453
<https://wildlifecenter.org>

National Wildlife Health Center (1963-2014 National USA data)
United States Geological Survey
6006 Schroeder Road
Madison, Wisconsin, USA 53711
(608) 270-2400
asknwhc@usgs.gov

Wildlife Health Lab (data not posted)
Animal Health Diagnostic Center
College of Veterinary Medicine
240 Farrier Road,
Ithaca, New York, USA 14850
(607) 253-3900
<https://cwhl.vet.cornell.edu/>

Wildlife Pathology Unit (data not posted)
108 Game Farm Road
Del Mar, New York, USA 12054
(518) 478-2203, (518) 478-3034
<https://dec.ny.gov>

Software Used to Analyze Final Veterinary Data:

Final veterinary data collapse into the comparative groups of eagles in lead (“Time_Series_Female_Pb_Reduced”, “Time_Series_Male_Pb_Reduced”, “Time_Series_Female_Pb_Free”, and “Time_Series_Male_Pb_Free”) and non-lead (“Time_Series_Control”) conditions (Hanley et al. 2021). Software to compare the eagle groups are conducted in Hanley et al. (2019a; 2019b; 2019c; 2019d; 2019e; 2019f).

License:

All data in this packet are shared under a Creative Commons Attribution 4.0 International license (CC BY 4.0, <https://creativecommons.org/licenses/by/4.0/>); the data are openly available to share and adapt, but appropriate credit to the original data creators is required upon reuse.

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Suggested Citation for the Use of this Veterinary Data:

Hanley, B, Dhondt, A, Forzán, M, Bunting, E, Pokras, M, Hynes, K, Dominguez-Villegas, E, Ponce Cosio, A E, & Schuler, K. 2021. *Veterinary Data Package: Lead in Bald Eagles in the Northeast United States* [Dataset]. Cornell University Library eCommons Repository. <https://doi.org/10.7298/3p9p-j249>.

Citations and Related Publications:

Avian Haven Wild Bird Rehabilitation Center. 2021. *Avian Haven Bald Eagle Case Reports 2012-2019*. Freedom, Maine [Data]. Cornell University Library eCommons Repository. <https://doi.org/10.7298/qg9d-9p17>.

Cummings School of Veterinary Medicine. 2021. *Tufts Bald Eagle Case Reports 1991-2019*. Tufts University. North Grafton, Massachusetts [Data]. Cornell University Library eCommons Repository. <https://doi.org/10.7298/6by1-j636>.

Hanley, B, Dhondt, A, Bunting, E, Pokras, M, Hynes, K, Forzán, M, & Schuler, K. 2019a. *ClosedDensiPOPd Web Interactive: Software to investigate the impacts to density dependence by lead in bald eagles in hypothetically closed systems* [Software]. Cornell University Library eCommons Repository. <https://doi.org/10.7298/n2x8-6p10>.

Hanley, B, Dhondt, A, Bunting, E, Pokras, M, Hynes, K, Forzán, M, & Schuler, K. 2019b. *PlastiPOPd Web Interactive: Software to investigate the life history plasticity in bald eagles in the Northeast United States* [Software]. Cornell University Library eCommons Repository. <https://doi.org/10.7298/7rxf-ee77>.

Hanley, B, Dhondt, A, Bunting, E, Pokras, M, Hynes, K, Forzán, M, & Schuler, K. 2019c. *ClosedCounterPOPd Web Interactive: Software to investigate the population scale impacts of lead in hypothetically closed bald eagle populations* [Software]. Cornell University Library eCommons Repository. <https://doi.org/10.7298/q4t7-1y54>.

Hanley, B, Dhondt, A, Bunting, E, Pokras, M, Hynes, K, Forzán, M, & Schuler, K. 2019d. *DensiPOPd Web Interactive: Software to investigate the impacts to density dependence by lead in bald eagles in the Northeast United States* [Software]. Cornell University Library eCommons Repository. <https://doi.org/10.7298/6yb8-5c25>.

- Hanley, B, Dhondt, A, Bunting, E, Pokras, M, Hynes, K, Forzán, M, & Schuler, K. 2019e. *CounterPOPd Web Interactive: Software to investigate the population scale impact of lead in bald eagles in the Northeast United States from 1990-2018* [Software]. Cornell University Library eCommons Repository. <https://doi.org/10.7298/0v1k-wq39>.
- Hanley, B, Dhondt, A, Dennis, B & Schuler, K. 2019f. *EaglePOPd Web Interactive: Software to investigate the demography of Bald Eagles in the Northeast, USA from 1990-2018* [Software]. Cornell University Library eCommons Repository. <https://doi.org/10.7298/q4m1-se95>.
- Hanley, B, Dhondt, A, Dennis, B, & Schuler, K. 2019g. Using time series data to assess recent population dynamics of Bald Eagles in the northeast United States. *Ecosphere* 10:1- 11. <https://doi.org/10.1002/ecs2.2963>.
- Hanley, B, Dhondt, A, Forzán, M, Bunting, E, Pokras, M, Hynes, K, Dominguez-Villegas, E, Ponce Cosio, A E, & Schuler, K. 2021. *Time Series Data Package: Lead in Bald Eagles in the Northeast United States* [Dataset]. Cornell University Library eCommons Repository. <https://doi.org/10.7298/wr25-4m46>.
- United States Geological Survey National Wildlife Health Center. 2021. *National Wildlife Health Center Bald Eagle Data 1963-2014*. Retrieved on Oct. 15, 2018 from the Wildlife Health Information Sharing Partnership event reporting system on-line database, <https://whispers.usgs.gov>. National Wildlife Health Center, Madison, Wisconsin [Dataset]. Cornell University Library eCommons Repository. <https://doi.org/10.7298/jn80-e080>.
- University of New Hampshire. 2021. *New Hampshire Veterinary Diagnostic Laboratory Bald Eagle Case Reports 2013-2017*. University of New Hampshire. Durham, New Hampshire [Dataset]. Cornell University Library eCommons Repository. <https://doi.org/107298/m8yz-1r93>.
- Wildlife Health Center of Virginia. 2021. *Wildlife Health Center of Virginia Bald Eagle Case Reports 2011-2017*. WILD-ONE. Waynesboro, Virginia [Dataset]. Cornell University Library eCommons Repository. <https://doi.org/107298/hyyc-ws65>.