



**National Wildlife Health Center
Wildlife Health Bulletin 2020-03**

**NWHC Operations During the COVID-19 Pandemic and Information About Coronaviruses in
Wildlife**

To: Natural Resource/Conservation Managers

From: Jonathan Sleeman, Center Director, USGS National Wildlife Health Center

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We recognize that in the midst of the COVID-19 pandemic, our wildlife health partners face many competing priorities. We want to assure you that the USGS National Wildlife Health Center (NWHC) remains committed to maintaining continuity of operations to assist our partners and to support wildlife, domestic animal, and public health. NWHC continues to conduct diagnostic investigations of wildlife mortality events, and we remain available to respond to your inquiries. We are also planning scientific research that will advance our understanding of potential implications of SARS-CoV-2 to North American wildlife. During this rapidly evolving situation, we may need to adjust our work and communication schedules and will keep you informed of our Center status.

Over the past few weeks we have received many requests for information regarding coronaviruses, wildlife, and the current COVID-19 pandemic. Data on the pandemic are being collected daily around the globe and information is rapidly evolving. Herein we provide background information on the virus causing the pandemic, sources we rely on for additional information, and an overview of the NWHC response to the current situation.

Coronaviruses and wildlife: Coronaviruses (CoVs) are enveloped, positive-sense, single-stranded RNA viruses that are present in many mammals and birds. Coronaviruses are broadly categorized into four main groups described below:

- Alphacoronaviruses are found primarily in mammals. Examples include a diverse range of viruses in bats (the NWHC and others have regularly detected these viruses in North American bat species), canines, and humans (some human cold viruses are in this group).
- Betacoronaviruses are also found in a range of mammalian species. Since 2003, three viruses from this group have infected humans and caused outbreaks of emerging respiratory disease: Sudden Acute Respiratory Syndrome (SARS), Middle East Respiratory Syndrome (MERS), and Coronavirus Infectious Disease-19 (COVID-19). Each of these viruses is closely related to a virus originating from a bat, and each likely underwent evolution and further adaptation in an intermediate mammalian host before infecting humans.
- Gammacoronaviruses and Deltacoronaviruses are carried primarily by avian hosts and are not known to pose a disease risk to humans.

It is not currently known whether the novel coronavirus, SARS-CoV-2, that is spreading through the human population has the potential to infect North American wildlife. To address this knowledge gap, the U.S. Geological Survey, U.S. Fish and Wildlife Service, and others are convening a team of disease and wildlife experts to quickly assess these risks and release interim guidance for human-wildlife interactions with an emphasis on wild and captive bats. In the immediate term, the NWHC provides the following guidance for selecting appropriate personal protective equipment (PPE) when investigating wildlife mortality events or when handling wildlife. Decisions on which PPE to use can be based on an assessment of potential risks presented by both known and unknown pathogens relevant to your proposed work. For example:

- A face mask can be worn to block or minimize the exchange of respiratory droplets. An N95 respirator is ideal, but this type of mask requires professional assessment for a proper fit. Alternatives may include use of a surgical mask or dust mask;
- Disposable exam gloves or other reusable gloves (e.g., rubber dish-washing gloves) that can be decontaminated can be used to prevent spread of pathogens between animals, from animals to humans, or vice versa;
- Washable or disposable coveralls, or a change of clothing and footwear, can be used to prevent movement of pathogens between sites.

NWHC Activities: Since the initial detection and description of SARS-CoV-2 and COVID-19, the NWHC has engaged in multiple response activities. Specifically, the NWHC is maintaining our capability to investigate unusual mortality events in wildlife across the country, and our diagnostic laboratories have protocols in place to detect coronaviruses, including SARS-CoV-2, in wildlife samples as warranted. As a member of the U.S. Department of Agriculture National Animal Health Laboratory Network (NAHLN), we have provided SARS-CoV-2 reference materials to other animal health diagnostic laboratories within the NAHLN to facilitate increased testing capacity nationwide. In addition, we are conducting research into the potential for native wildlife to serve as reservoirs of this disease, including enhanced wildlife surveillance for coronaviruses and other experiments to assess the susceptibility of North American bat species to SARS-CoV-2. Lastly, as a member of the World Organisation for Animal Health (OIE) Working Group on Wildlife, we are providing ongoing guidance on the prevention and response to emerging wildlife diseases. If you have questions about the current SARS-CoV-2 pandemic as relevant to wildlife health, please contact us at 608-270-2480 or by email at NWHC-epi@usgs.gov.

Useful Links:

Centers for Disease Control FAQs on Animals and COVID-19: <https://www.cdc.gov/coronavirus/2019-ncov/prepare/animals.html>

European Association of Zoo Veterinaries FAQs on SARS-COV-2 in wild and zoo animals: https://cdn.ymaws.com/www.eazwv.org/resource/resmgr/files/transmissible_diseases_handbook/5th_ed_t_ransmissible_diseases_handbook/chapters/covid19_faq_17march_2020.pdf

World Organisation for Animal Health FAQs on COVID-19: <https://www.oie.int/en/scientific-expertise/specific-information-and-recommendations/questions-and-answers-on-2019novel-coronavirus/>

Curated literature hub for tracking up-to-date scientific information on COVID-19:
<https://www.ncbi.nlm.nih.gov/research/coronavirus/>

Disease Investigation Services

To request diagnostic services or report wildlife mortality, please contact the NWHC at 608-270-2480 or by email at NWHC-epi@usgs.gov, and a field epidemiologist will be available to discuss the case.

To report wildlife mortality events in Hawaii or Pacific Island territories, please contact the Honolulu Field Station at 808-792-9520 or email Thierry Work at thierry_work@usgs.gov.

Further information about our services can be found at www.usgs.gov/nwhc/services.

To learn more about submitting samples and reporting events, go to www.usgs.gov/nwhc/submit.

Summary information on wildlife morbidity/mortality events reported to NWHC can be viewed and searched on the [WHISPers website](#). If you have any questions or concerns regarding the scientific and technical services we provide, please do not hesitate to contact NWHC Director Jonathan Sleeman at 608-270-2401, jsleeman@usgs.gov.

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