



**National Wildlife Health Center
Wildlife Health Bulletin 2020-06**

**An Update on National Wildlife Health Center Support to Wildlife Managers and Response to
Rabbit Hemorrhagic Disease Virus 2**

To: Natural Resource/Conservation Managers

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

Date: August 31, 2020

A large-scale outbreak of rabbit hemorrhagic disease (RHD), caused by rabbit hemorrhagic disease virus 2 (RHDV2), began in the spring of 2020 in the southwestern United States and adjacent northwestern Mexico. Categorized by the U.S. Department of Agriculture (USDA) as both a Foreign Animal Disease (FAD) and a Notifiable Lagomorph Disease in the National List of Reportable Animal Diseases (NLRAD), diagnostic testing for RHDV2 was initially limited to the USDA Foreign Animal Disease Diagnostic Laboratory (FADDL) on Plum Island, New York. Recently, USDA determined that RHDV2 outbreaks in some southwestern states and Washington state have reached “stable” status and has consequently disseminated virology testing procedures for RHDV2 to be conducted in additional laboratories. Specifically, the USGS National Wildlife Health Center (NWHC) and the Southeastern Cooperative Wildlife Disease Study (SCWDS) have been designated as primary laboratories for testing wild rabbits for RHDV2 in support of state, federal, and tribal wildlife management agencies.

We are issuing this update on RHDV2 to clarify the NWHC goals for providing technical assistance to partner agencies, issue NWHC submission guidelines for RHDV2 and the lagomorph surveillance guidance developed by NWHC, and provide an update on research activities.

Disease Status

As of August 2020, RHDV2 has been confirmed in black-tailed jackrabbits (*Lepus californicus*), antelope jackrabbits (*Lepus alleni*), desert cottontails (*Sylvilagus audubonii*), and mountain cottontails (*Sylvilagus nuttallii*) in the states of Arizona, California, Colorado, Nevada, New Mexico, Texas, and Utah. For up-to-date, national-scale information on the location, number, and species affected by the on-going RHDV2 event in wild lagomorphs, please visit the [Wildlife Health Information Sharing Partnership-event reporting system \(WHISPers\)](#). By creating an account in WHISPers, agency partners can utilize WHISPers to collaborate on disease events, request diagnostic and technical assistance from NWHC in response to disease events, and receive notifications regarding disease events of interest.



Distribution of RHDV2 in wild Lagomorphs in North America, August 2020, as depicted in the Wildlife Health Information Sharing Partnership – event reporting system ([WHISPers](#)).

NWHC Goals and Objectives for Providing RHDV2 Technical Assistance to Partners

NWHC has established the following overarching goals for assisting partners in their management response to RHDV2: (1) inform situational awareness, (2) mobilize knowledge, and (3) assess potential population-level impacts of this disease. To inform situational awareness we will provide diagnostic services to state, federal, and tribal natural resource management partners to document both the geographic and host range of RHDV2. Data will be managed and served in our Wildlife Health Information Sharing Partnership – event reporting system ([WHISPers](#)).

NWHC Submission Guidelines for RHDV2

Pursuant to the recent determination made by USDA that RHDV2 has reached a “stable” status, and their pursuant decision to allow laboratories in addition to FADDL to test for RHDV2, the NWHC has developed and issued the attached [Diagnostic Case Submission Guidelines for Rabbit Hemorrhagic Disease](#). These guidelines were developed to help partner agencies assess the geographic and host range of RHDV2 within their jurisdictions.

Lagomorph Survey Methodology

To assist partners in their efforts to document the distribution and abundance of lagomorphs in their jurisdictions an [overview of rabbit survey methodology](#) has been developed. Lagomorph survey data can be used to document disease impacts from RHDV2 or recovery after an outbreak of disease.

RHDV2 Research Activities - Risk Assessments

In North America, it is not yet known what impacts this disease will have on wild lagomorph populations, and state- or federally- listed threatened or endangered species are of particular concern. NWHC is working with state and federal natural resource agencies in five western states to conduct risk assessments for vulnerable rabbit populations to provide guidance on when RHDV2 might affect these populations and estimates of potential impacts. To achieve these objectives, we are developing an RHDV2 spread model and a spatially explicit host-pathogen transmission model. For more information please contact Dr. Robin Russell (rerussell@usgs.gov).

Biosafety Considerations

The strain of RHDV2 circulating in the U.S. appears to be highly contagious and may be environmentally stable. Wildlife professionals investigating morbidity or mortality events involving wild lagomorphs, or who handle live rabbits, should wear personal protective equipment (PPE) and decontaminate all field gear, clothing, and vehicles. In addition, general PPE recommendations for investigating morbidity or mortality in rabbits should include boots, gloves, and outer clothing that can be bagged, cleaned, and disinfected; or bagged and thrown away. Specific PPE recommendations should be determined by individual agencies based upon known and anticipated risks relevant to the disease event under investigation. Caution should also be emphasized in areas where tularemia or plague outbreaks historically occur. To avoid inadvertent spread of RHDV2 or accidental exposure to tularemia or plague, we discourage field necropsies and instead recommend whole carcasses be collected, at least double bagged, and transported to an appropriate Biological Safety Level-2 or higher containment laboratory for necropsy. Carcasses not submitted for necropsy should be incinerated or buried deep enough to prevent access by scavengers to avoid additional environmental contamination. The USDA in collaboration with the Environmental Protection Agency (EPA) has issued [recommendations for disinfectants that are effective against RHDV2](#).

Additional Resources

Rabbit Hemorrhagic Disease and Other Lagoviruses, Center for Food Security & Public Health, Iowa State University: http://www.cfsph.iastate.edu/Factsheets/pdfs/rabbit_hemorrhagic_disease.pdf

Emerging Risk Notice - July 2020 - Rabbit Hemorrhagic Disease Virus, Type 2, USDA: https://www.aphis.usda.gov/animal_health/downloads/rhdv2.pdf.

RHDV2 Vaccine Frequently Asked Questions (FAQs), USDA: https://www.aphis.usda.gov/animal_health/downloads/faq-rhd-vaccine.pdf

Continued Expansion of Rabbit Hemorrhagic Disease Virus 2 in North America and Additional Instructions Regarding Mortality Event Investigations, May 2020, NWHC Wildlife Health Bulletin 2020-05: <https://www.usgs.gov/media/files/continued-expansion-rabbit-hemorrhagic-disease-virus-2-na>

Rabbit Hemorrhagic Disease Virus 2 Confirmed in Wild Rabbits in the United States, April 2020, NWHC Wildlife Health Bulletin 2020-04: <https://www.usgs.gov/media/files/rabbit-hemorrhagic-disease-virus-2-confirmed-wild-rabbits-us>

Disease Investigation Services

To request diagnostic services or report wildlife mortality, please contact the USGS National Wildlife Health Center 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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