



## **Rabbit Hemorrhagic Disease Fact Sheet**

### **History of Washington state outbreak**

Rabbit hemorrhagic disease (RHD), a highly contagious viral disease with high infection and death rates in domestic rabbits, was identified in a pet rabbit from Orcas Island (WA) on July 18, 2019. The disease was later confirmed at other sites on Orcas and also on San Juan Island. In November, the disease was confirmed in a feral domestic rabbit on Whidbey Island and on a single domestic rabbit premise in Clallam County in December. In the U.S., RHD is considered a foreign animal disease; only rare, sporadic, and isolated cases have previously been reported in the U.S.



There are significant rabbit populations on many of the San Juan Islands; these populations include both European (wild) and domestic rabbits—the latter include pets, commercial purpose (breeding stock and meat animals), and ferals. Residents of Orcas, San Juan, and Lopez Islands have reported “die offs” of feral rabbits. Larger rabbitries on Orcas Island reported morbidity (sickness) rates of 100 percent and mortality (death) rates of 30 to 56 percent during the current outbreak.

### **Origin of the disease**

The RHD virus was first diagnosed in 1984 in China. It spread widely throughout the world and is well established in some countries. It was introduced and used as a natural population control measure in both New Zealand and Australia, where rabbit numbers were raging unsustainably.

RHD is similar to feline leukemia virus and canine parvovirus. It probably developed from non-pathogenic caliciviruses present in wild European rabbits.

There are three forms of the RHD virus. The form identified in the San Juan Island outbreak was RHDV2, believed to infect all ages of domestic rabbits but less deadly than types RHDV and RHDVa.

### **Signs of infection**

The first sign of infection with RHD is often sudden and unexpected death in previously healthy rabbits. Those that do not die immediately may demonstrate poor appetite, depression, inactivity, and listlessness; they will have a fever and bloody nasal discharge may be noted. Later signs relate to organ failure and include jaundice, respiratory distress, diarrhea, weight loss, bloating, and death.

Caretakers of rabbits affected by but recovering from the virus in the current outbreak on the San Juan Islands observed rabbits did not come to the front of their cages with interest when fed; even those that survived appeared “limp” and inactive at the back of their cage for a day or two before recovering completely.

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## How the virus spreads

The RHD virus is very contagious and easily spread through numerous means:

- Ingestion of contaminated food or water
- Direct contact with infected live or dead rabbits
- Inhalation
- Contact with contaminated equipment, tools, hutches, bedding, etc.
- Viral movement by flies, birds, biting insects, predators, scavengers, and humans
- Contact with urine, manure, and respiratory discharges of infected rabbits
- Ocular (conjunctival) infection via flies, dust, or secretions of infected rabbits
- Contact with feces of predators or scavengers that have eaten infected rabbits

## Control and prevention

Because the RHD virus is highly contagious, can be spread by many means, and can be maintained in wild rabbit populations, controlling outbreaks is challenging once the virus is present in an area. The virus can live in flies for as much as nine days, in carcasses for up to three months, and for a few weeks in dried excretions/secretions.

Rabbits surviving infection are believed to shed the virus for at least 30 days, but in experimental cases, they shed the virus as many as 105 days. Long term/permanent shedding is unlikely. Exposed and surviving rabbits have immunity to that viral strain for an unknown amount of time.

Vaccines exist for RHDV/RHDVa and RHDV2; there is no cross protection between strains, and annual revaccination is recommended. Because RHD is considered a foreign animal disease, vaccines are only available in the U.S. through private veterinarians who have applied for and been granted permission by the USDA to purchase and distribute the vaccine.

Strict biosecurity practices are the backbone of prevention. Essential steps include:

- Keep a closed rabbitry
- Exclude wild and feral rabbits and predators from rabbitry
- Wash hands between handling rabbits in different pens or cages
- Clean and disinfect\* equipment, tools, footwear, feed and water containers, cages, etc.
- Control flies and biting insects
- Remove brush, grass, weeds, trash, and debris from rabbitry
- Protect feed from contamination by flies, birds, rodents, etc.
- Do not feed grass or other forage that could be contaminated with the virus
- Do not use forage, branches, etc. for bedding
- House rabbits indoors if possible
- Do not share equipment with others who raise rabbits
- Remove and bury or dispose of dead rabbits promptly
- Submit carcasses for examination and sampling promptly
- Contact a veterinarian promptly if sick or dead rabbits are observed
- Do not transport rabbits into or out of RHD quarantine areas
- Quarantine new rabbits or those returning from shows for one month

*\* Recommended disinfectants include those in the phenol class or 10 percent bleach. Clean thoroughly with soap and water first and apply disinfectant for recommended contact time. Rinse well and let dry before allowing animal contact.*