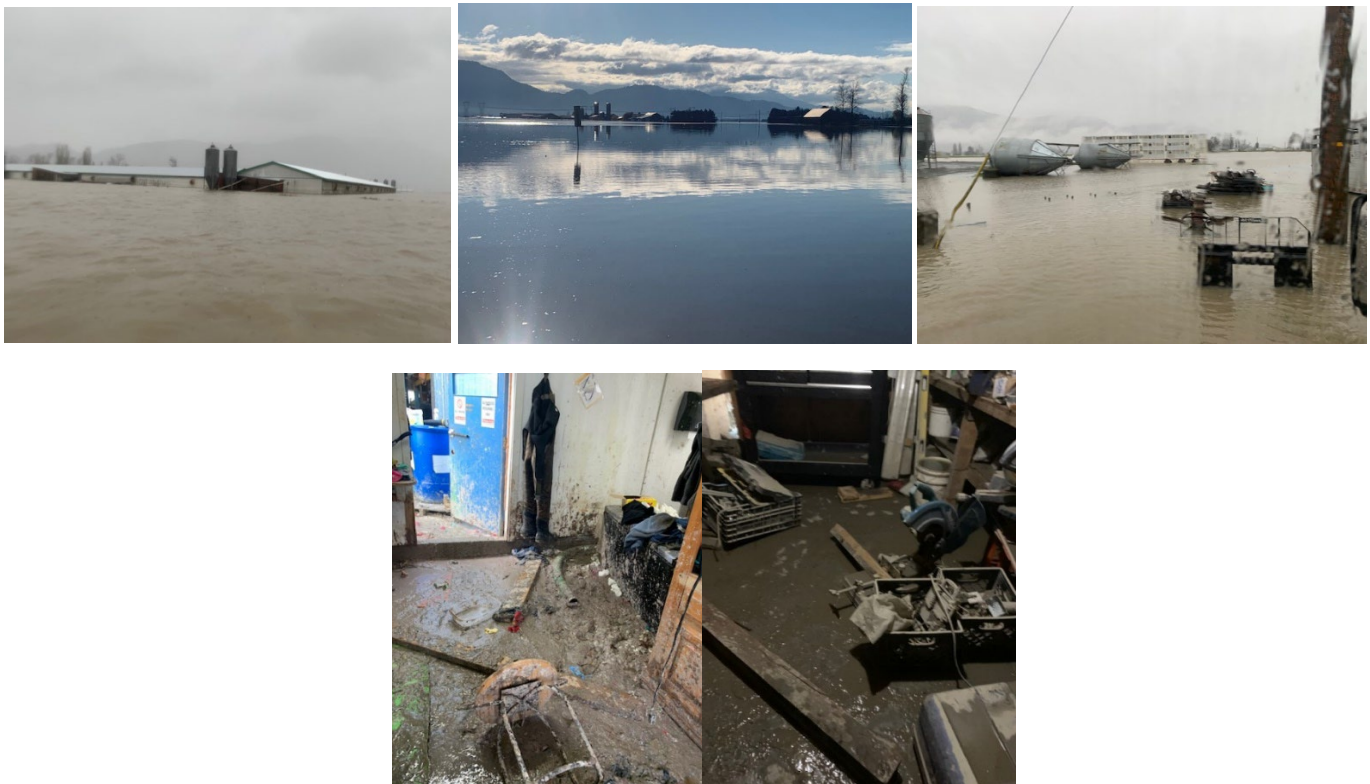


2021 British Columbia Floods- A real life example of the importance of on-farm emergency planning

Dr. Josh Waddington shared his personal experiences, from the lens of a private practicing vet, helping farms that were affected by the 2021 British Columbia floods. In mid-Nov of 2021 over 150 mm of rain fell in BC in under 4 hours. This rain event is known as an atmospheric river. The area affected was within a 10 km range that happens to be a very intense agricultural area. **Water levels rose 6 inches an hour** near the south end of the affected area. The water levels were rising so quickly that one of his swine farm clients had to escape through the attic of their barn and out the roof to be rescued. Feed required within the flood zone had to be helicoptered into some farms and Dr. Waddington had to proceed by boat to get to the farms shown in the photos below.



Source: All photos taken by Dr. Waddington

“The most important thing you can do as a veterinarian during this emergency was to be present for those that needed you” said Dr. Waddington. One of his swine clients lost their entire herd of finisher pigs. Pigs are not an easy animal to move in great numbers quickly and in this instance approximately 14,000 animals drowned. Police and security restricted access to the flooded area and permits were required for access. This related to feed, service industries including veterinarians. Permits took about 4-5 days to process which is way too long. It wasn’t just the flooding that was the concern, after the flood waters began to recede all items were displaced (as they float or were shifted by the water), and mud was everywhere. Those farms that were lucky enough to not loose many animals were faced with the clean-up while the requirement to continue to run the farm were still upon them “sows don’t stop farrowing and animals always require care” said Dr. Waddington. Producers were forced to make difficult decisions very rapidly in this emergency. In the case where movement of animals out of the flood zone was possible those that had a plan in place on where these animals would go and how they would be transported to this destination faired the best. This is a great example on where having a tested emergency plan in place was a real asset to some to assist with the rapid decision making that was critical. It is important to note that no emergency plan could prepare them for a natural disaster of this magnitude or with the rapidity of developments. As in any emergency there were a lot of lessons learned including the effects that limited resources for responders/governments had on those affected, the need to determine preferred methods for mass disposal in advance of need and the need to have mental health resources developed in advance so that they are readily available to those that need them. On behalf of the CSHIN team I would like to thank Dr. Josh Waddington and Dr. Theresa Burns for sharing some of their direct/personal experiences with this disaster. These are not easy topics to discuss and be forced to re-live.

Actinobacillus pleuropneumoniae (APP)

In late November, APP serotype 15 showed up in nine central Iowa pork production systems and caused severe production losses with pneumonia and mortality being reported up to 50%. The outbreak concentrated in production systems within a 20-mile radius. APP normally spreads via physical or direct contact and generally doesn’t survive long in the environment. In this scenario it appeared to be transmitting via some other mechanisms. There was a high rate of lateral transmission between geographically close systems. Rendering trucks, repair crews and trucks shipping to slaughter are all on the list of potential sources of infection. The SHIC released a [webinar on APP management](#) and are conducting [field and genomic investigations](#) on the event.

CEZD Disease Signals of Interest from Q1

Dr. Andrea Osborn provided a review of disease signals that presented to the Community of Emerging and Zoonotic Disease (CEZD) over the past quarter.

African Swine Fever (ASF) Signals

- ASF is still a global threat and outbreaks are ongoing. During Q1 of 2022 there were over 1800 cases reported to the World Animal Health Organisation (OIE) and so far in Q2 there has been 436 cases reported [source Empress i FAO website](#).
- Most of these detections occurred in Eastern Europe, however outbreaks also continue in Asia, Africa, the Dominican Republic and in Haiti.
- The situation of [ASF in Italy](#) reiterates that ASF is a human driven disease as the virus detection close to Rome is hundreds of kilometers away from any other known infections.

ASF Spread in Eastern Europe



These maps above demonstrates the locations of reported ASF cases in Q1, and the recent jump in detections in Italy in Q2 of 2022 (Source: [Empres-i](https://empres-i.apps.fao.org/)) <https://empres-i.apps.fao.org/>

Promising ASF Research

- The African Swine Fever Virus vaccine from the U.S.A has passed the tests required for regulatory approval by the United States Department of Agriculture (USDA). Results from safety studies have shown that the modified gene within this vaccine remained genetically stable and attenuated during a reversion to virulence study in domestic swine ([research link](#)). It is expected to still take some time until this vaccine is commercially licensed and available for purchase.

Porcine Epidemic Diarrhea Virus (PED) / Porcine Delta Coronavirus (PDCoV)

CWSHIN (Western Provinces)

Dr. Jette Christensen from CWSHIN reminded the CSHIN network team that Manitoba Agriculture continues to send out a report on the current PED outbreak twice per week that includes a map of the affected area with the outline of buffer zones. As of the date of this call on May 18, 2022, there were 101 total premises that have been declared infected with PED in Manitoba since the end of October of 2021. Recovered pigs are now beginning to move into finishing operations and further onto processors.

Jenelle Hamblin from CWSHIN reported that now they are seeing mostly nursery and finishing barns declared positive due to the movement of recovered pigs. There are still a few new cases of unknown sources of infection. Jenelle highlighted some of the differences between this PED outbreak and the previous outbreaks in Manitoba that includes the following:

- This outbreak began in the fall vs. the previous outbreak began in the spring.
- Manitoba had a very harsh winter, with lots of extremely cold temperatures and blowing snow. This winter weather proved to challenge the ability for proper cleaning and disinfection to occur and a few wash bays for transport trucks were rendered out of commission leading to a backlog of transport trucks requiring cleaning and disinfection.

- Struggles with labour shortages due to COVID, a human illness led to issues with being able to complete the cleaning and disinfection of barns, trucks, equipment and in general to manage the disease.

OAHN (Ontario)

Dr. George Charbonneau mentioned that in Q1 and thus far in Q2, Ontario has seen a flurry of activity for PED and PDCoV cases. From Jan 4-March 28 in Q1 Ontario had 6 cases of PED and 2 cases of PDCoV detected. During the month of April in Q2 this trend continued, and Ontario saw 3 new cases of PED and 4 new cases of PDCoV. Swine Health Ontario continues to record and track for new cases at the county level in Ontario. The map can be reference via the following [link](#).

Both RAIZO (Quebec) and the Maritimes reported no issues with PED or PDCoV during this reporting period.

Brachyspira hamptonii

RAIZO (Quebec)

Dr. Claudia Gagné-Fortin reported that currently there are two ongoing outbreaks of *B. hamptonii* in Quebec. There are no known links between these outbreaks, and they occurred on farms that are geographically separated. In the one outbreak the sow herds have continuously tested negative, but two finishers in the same pig flow have tested positive. The source of this infection in these two finishers is unknown. RAIZO put out a formal request for practitioners that have had success with eradicating this pathogen in the past to please contact Dr. Claudia Gagné-Fortin.

OAHN reported that this pathogen has not been detected in Ontario for many years, but laboratories have this on their radar and are looking for it.

This information is a professional communication for swine producers. This information is not validated and may not reflect the entire clinical situation. Your judgment is required in the interpretation and use of it. It is the intent of CSHIN to improve the health of the national swine herd. CSHIN is funded by the Canadian Association of Swine Veterinarians (CASV), The Canadian Pork Council (CPC) and The Canadian Animal Health Surveillance System (CAHSS).

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