



**Vitenskapskomiteen for mattrygghet**

Norwegian Scientific Committee for Food Safety

# CWD in Norway – a state of emergency for the future of cervids

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# Background - Chronic wasting disease (CWD)

- Prion disease
- Affecting cervids
- Diagnosed in a wild reindeer in Norway, March 2016
- First time in Europe
- First case of natural CWD in reindeer
- Diagnosed in two moose in Norway, May 2016



# Prion diseases

Examples are:

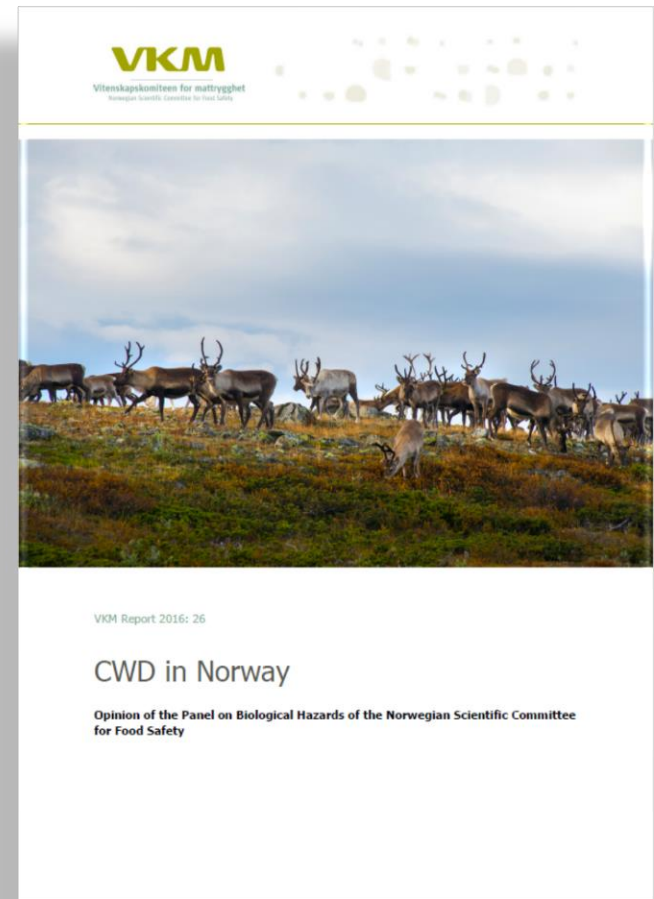
- Bovine spongiform encephalopathy (mad cow disease)
- Creutzfeldt jakob disease (humans)
- Scrapie (sheep and goats)
- Chronic wasting disease (cervids)

Consequences:

- Always fatal
- Affects the nervous system
- Some variants are contagious

# VKM assignment – phase I

- «CWD in Norway»
- General introduction to CWD
- Food safety
  - Transmission to humans?
  - Precautions and control measures
- Disease transmission
  - Between cervids
  - Via the environment
  - Spread
  - Spillover to other species?
  - Precautions and control measures



# VKM assignment – phase II

Update (where possible) the information presented in phase I:

- Food safety
- Disease transmission
- The origin of the disease



Bilde: Olav Strand, NINA

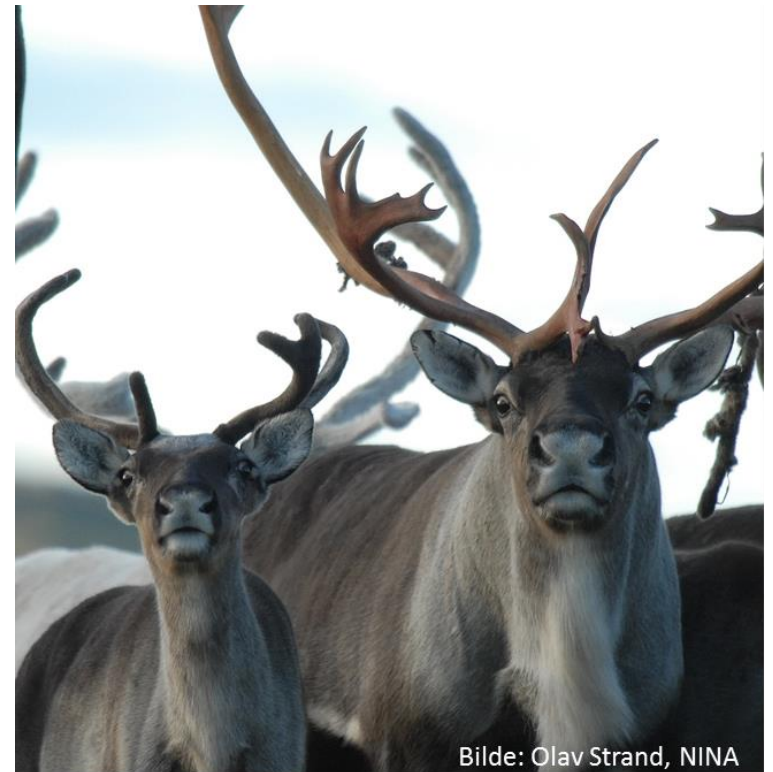
# VKM assignment – phase II

- Which risk factors that are relevant for disease transmission should be included in management strategies?
- How could these risk factors affect transmission of the disease?



# VKM assignment – phase II

- Benefits and disadvantages of reducing the risk factors?
- Relevant strategies from North America?
- Choice of management strategy in regard to CWD distribution



# New knowledge since Phase I

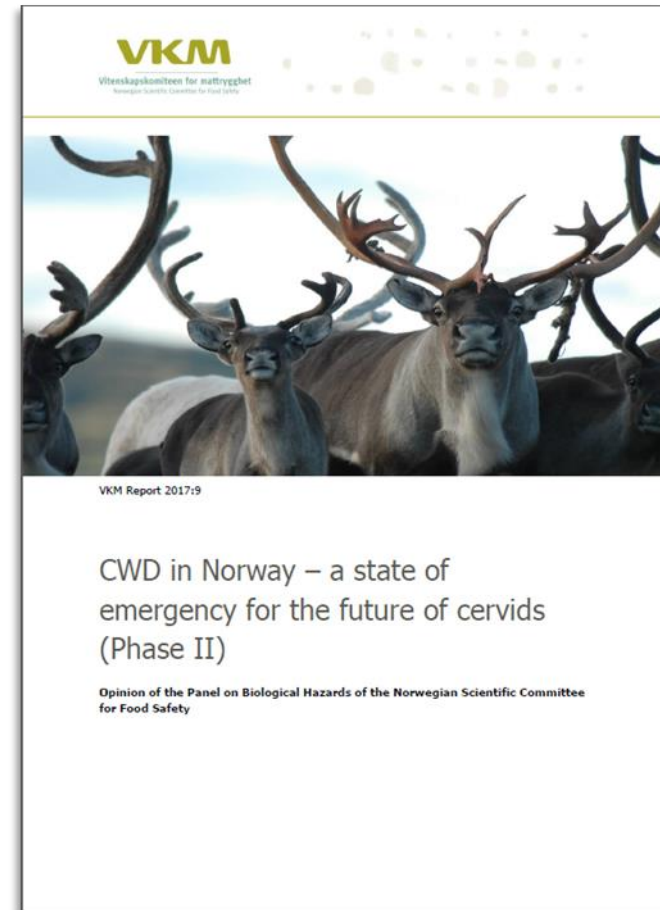
- 11000 cervids tested for CWD
- Two additional cases of CWD in reindeer from Nordfjella
- No more cases of CWD in moose
- CWD in reindeer identical to North American variant
- CWD in moose is different from previously identified CWD variants



# Results from phase II

## Updates from phase I:

- Risk of transmission to humans is **still** considered **very low** (reindeer variant)
- Risk of transmission to humans is **not known** (moose)
- Origin of the disease is still unknown



**CWD does not disappear by itself**

**Slow, but steady development of CWD**

**CWD spreads**

**Population effect only evident after a long period**

**Animals are not clinically ill – but do transfer the disease agent**

**Initially, transmission from animal to animal**

**Subsequently via the environment**

**Eventually exposing humans and other animals**

**Only a small effect of removing sick animals**

**No treatment or vaccination is available**

**The environment is contaminated**

**Very limited room for action**

# Risk factors

## Hotspots:

- Saltlicks and surrounding soil
- Supplemental feeding
- Transport



## Human assisted spread

- Live animals
- Meat and meat waste
- Soil
- Vehicles, shoes and equipments

## High population density

- Spillover

## Animal assisted spread

- Possible
- But less important

# Possible management strategies

Choice of strategy is dependent on a range of criteria

- Strategy 1: No action (not recommended)
- Strategy 2: Attempt to eradicate the disease
- Strategy 3: Control and limit the disease

# Conclusions phase II

- Culling of the Nordfjella population is a necessary, immediate response to the current situation
- Potential hot-spots for disease transfer should be eliminated in areas with CWD
- Confinement of CWD-infected populations should be increased where possible
- Increasing the national surveillance of CWD is essential to ensure future evidence-based management



Photo: Olav Strand, NINA