



Wild Tiger Health Centre Information Sheet

Disease threat:

Avian influenza - HPAI

Hazard description: Influenza A viruses infect a wide range of avian and mammalian species. There are subtypes based on antigenic variation in HA and NA proteins (Reperant *et al.* 2012).

Host species: Wild water birds are the natural host of Influenza A viruses – in which they are considered either of low pathogenicity (LPAI), with intestinal tract infection, or of high pathogenicity (HPAI), causing systemic infection with high mortality (Reperant *et al.* 2012). Outbreaks in domestic poultry can be severe.

HPAI has been recorded in domestic and captive wild felids. Fatal infection has been recorded in captive large felids including tiger, leopard, and lion (Quirk 2004; Keawcharoen *et al.* 2004; Chen *et al.* 2016). Virus may spread cat to cat (Thanawongnuwech *et al.* 2005). Pharyngeal virus excretion has been demonstrated in an experimental model in cats, three days post-infection (Kuiken *et al.* 2004).

Pathogenesis: Viral infection can cause fever and respiratory and neurological signs. Subclinical infection may also occur (Marschall & Hartmann 2008).

Diagnosis: In cats, suspect infection based on clinical signs. For all – pharyngeal swabs RT-PCR. Confirmation on RT-PCR on post-mortem tissues (Reperant *et al.* 2012).

Vaccination: None.

Free-ranging tiger occurrence: No reports of disease were found, but clearly tigers are susceptible to infection and HPAI viruses circulate periodically within tiger range states. A single tiger in the Russian Far East has been reported as serologically positive to Influenza A viruses (Naidenko *et al.* 2018).

Distribution: Widely circulating in tiger range states.

Assumptions: None.

Limitations: None.