

It is clear that the unrestricted biosecurity risk posed by this proposal exceeds Australia's ALOP, and that full risk assessment will be required to identify appropriate risk mitigation methods before any import of viable sturgeons or their eggs into Australia could be considered. I note that the initial hazard identification process has excluded Viral Haemorrhagic Septicaemia virus (VHSV) from further consideration. This was despite the fact cell lines derived from Siberian sturgeon (*Acipenser baerii*) can be infected with VHSV and display not only a cytopathic effect, but also significant viral replication which rapidly increases tissue culture infective dose (TCID) over time (Figure 9 in Ryu et al. 2018). The authors of that study concluded with the following statement "Although it has never been reported that VHSV is infective to sturgeon species, it is thought to be quite possible as it has been revealed that VHSV can infect various freshwater and marine fish species" (Ryu et al. 2018). These data, together with ample evidence that sturgeon are susceptible to other closely related rhabdoviruses, (such as infectious haematopoietic necrosis virus, IHNV), indicate that sturgeon tissues can be infected with VHSV under some circumstances. This evidence, and the opinion of Ryu et al. (2018), thus contradicts the statement in the issues paper which excludes VHSV from the hazards list based on "not enough evidence to determine (if) sturgeon are susceptible to VHSV". There is no evidence of absence, nor is there even absence of evidence. Instead, there is some evidence that suggests sturgeons are likely to be susceptible to VHSV if exposed to the virus under certain conditions. Furthermore, in North America, some government fish health authorities and fisheries groups consider that sturgeons are likely to be susceptible to VHSV. For example, VHSV is considered a threat to efforts to restore pallid sturgeon (*Scaphirhynchus albus*) populations in the Mississippi River. Even though VHS has not been isolated from pallid sturgeon, they consider that this may be because the virus has not been found within the range of the species to date, and they advocate for surveillance testing for VHSV in regions where pallid sturgeon occur, see <https://pallidsturgeon.org/endangered-species-act/listing-requirements/factor-c-disease-or-predation/> Also, culls of hatchery reared Lake sturgeons (*Acipenser fulvescens*) have been undertaken in Michigan in situations where they have been suspected to have been exposed to VHSV. The culls were done due to the risk of those sturgeon acting as VHSV carriers which could spread the disease to other locations, see <https://www.michigan-sportsman.com/threads/wi-vhs-fear-leads-to-deaths-of-23-000-sturgeon.193266/> For these reasons, it would appear justifiable, and prudent, that VHSV is retained as a pathogen for further assessment. This is because it is known that sturgeons are susceptible to piscine rhabdoviruses, and it appears that VHSV could potentially be carried by live sturgeon and/or sturgeon products from areas where sturgeon host ranges overlap with known VHSV endemic regions. References Ryu JH, Kim MS, Kang JH, Kim DH, Nam YK and Gong SP (2018) Derivation of the clonal-cell lines from Siberian sturgeon (*Acipenser baerii*) head-kidney cell lines and its applicability to foreign gene expression and virus culture. Journal of fish biology, 92(5): 1273