**Department of Primary Industries**
Department of Regional NSW

[redacted]
21 September 2023

[redacted]

Re: NSW Department of Primary Industries submission to the Import of live sturgeon for aquaculture Draft biosecurity import risk analysis

Dear [redacted]

Thank you for the opportunity to comment on the *Import of live sturgeon for aquaculture Draft biosecurity import risk analysis* (Draft BIRA).

NSW Department of Primary Industries (NSW DPI) has previously indicated in 2008, that it did not support the proposal to amend *the List of Specimens Taken to be Suitable for Live Import* (hereafter abbreviated as Live Import List) to include any sturgeon species based on significant pest and disease risk potential, and the listing of sturgeon species as noxious or prohibited species in multiple jurisdictions in Australia. Regardless, following the addition of two species of sturgeon (Siberian sturgeon, *Acipenser baerii,* and Beluga sturgeon, *Huso huso*) to the Live Import List, NSW DPI considers that it is essential that a thorough risk analysis be undertaken in relation to the proposal to import live sturgeon for aquaculture.

NSW DPI has significant concerns that the conclusions of the Draft BIRA have underestimated the risk of establishment of a range of finfish pathogens and that the proposed risk mitigation measures are insufficient to achieve Australia's Appropriate Level of Protection (ALOP) of very low. Specifically, NSW DPI has concerns in the proposal, to directly import live sturgeon (in contrast to allowing only progeny from imported stock to be released from quarantine, as recommended by the World Organisation for Animal Health; WOAH), on the basis that:

> *"... the slow development of sturgeon to reach sexual maturity (7 years+) does not make this feasible."* and that, *"Instead, alternative biosecurity measures are proposed to provide equivalent risk management to allow the safe release of the F0 generation."*

As these fish are proposed as founders for a new industry in Australia, ensuring that pathogens and pests are not inadvertently translocated along with the target sturgeon should be of paramount importance. NSW DPI does not consider that the delay associated with sexual maturity should be considered an insurmountable obstacle that necessitates import of live sturgeon directly to Australia, in contrast to the recommendations of WOAH. Import of fertilised eggs, with appropriate

risk mitigation measures in place would present a significantly reduced risk in comparison to the import of live fish.

Although the Draft BIRA has indicated that the Live Import List specifies that import:

> *"....is only permitted for commercial aquaculture in a secure recirculating aquaculture system (RAS) to manage the risk of sturgeon establishing as a pest species in the wild"*

No definition has been included of what constitutes a "secure recirculating aquaculture system". NSW DPI considers that a specific definition is essential for adequate mitigation of pest and disease risks, and that the definition of a "secure recirculating aquaculture system" needs to be limited to only "biosecure indoor recirculating tank-based aquaculture systems, with no discharge of untreated effluent water", where biosecure is further defined to also include that no live products can leave the facility.

No precedent currently exists that allows for the importation of live aquatic animals specifically for the purposes of aquaculture. Any consideration for facilitating the import of new aquaculture species should be undertaken with extreme care and caution to avoid inadvertent translocation of exotic pathogens and pest species.

Additionally, for many aquatic species, including sturgeon, knowledge of pathogens and disease risks is incomplete, as is reflected by ongoing emergent disease issues, and the increasing number of reported pathogens of sturgeon over time. Examples of such emergent pathogens in sturgeon species have recently been highlighted by Mugetti *et al.*, (2020), Radosavljević *et al.*, (2019) and Stachnik *et al.*, (2021).

These emerging diseases, as well as known aquatic diseases, pose a potential risk for Australia's aquatic industries and environment, and this has been acknowledged through the need for import risk analyses for commodity products such as prawns and finfish for human consumption. The risks associated with live fish are even greater, whereby low levels of many pathogens, if present in dead commodity products, would be unable to be amplified and spread without encountering a susceptible live host, but can be amplified in live imported fish hosts, presenting an ongoing risk far greater than the initial risk at the time of importation. Once established in wild fish populations, such pathogens cannot be eradicated, and therefore, the impacts of such introduction are irreversible. Yet, throughout the Draft BIRA, impacts of many specific disease risks has been assessed as "minor", whereby a minor impact has been defined as *"Minor significance — impact is recognisable, but minor and reversible."*

NSW DPI therefore considers that the Draft BIRA has underestimated the risks posed by the introduction of live sturgeon. The proposed risk mitigations are considered insufficient, unless importation is limited to biosecure indoor tank based recirculating aquaculture facilities.

Yours sincerely,

[redacted]

## References

**Mugetti D, Pastorino P, Menconi V, Pedron C, Prearo M.** *The Old and the New on Viral Diseases in Sturgeon. Pathogens*. 2020 Feb 21;9(2):146. doi: 10.3390/pathogens9020146. PMID: 32098100; PMCID: PMC7168591.

**Radosavljević V, Milićević V, Maksimović-Zorić J, Veljović L, Nešić K, Pavlović M, Ljubojević Pelić D, Marković Z.** Sturgeon Diseases in Aquaculture. AVM [Internet]. 2019 Sep. 12 [cited 2023 Sep. 19];12(1):5-20. Available from: https://niv.ns.ac.rs/e-avm/index.php/e-avm/article/view/34

**Stachnik M, Matras M, Borzym E, Maj-Paluch J, Reichert M.** *Emerging Viral Pathogens in Sturgeon Aquaculture in Poland: Focus on Herpesviruses and Mimivirus Detection*. Viruses. 2021 Jul 29;13(8):1496. doi: 10.3390/v13081496. PMID: 34452361; PMCID: PMC8402841.