



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
1315 East-West Highway
Silver Spring, Maryland 20910

December 23, 2020

Stephen M. Coan, Ph.D.
President and CEO
Mystic Aquarium
55 Coogan Boulevard
Mystic, CT 06355

Dear Dr. Coan:

Per Condition III.B.6.e of Permit No. 22629, as amended, I approve the breeding prevention plan (hereafter the ‘plan’) submitted by Mystic Aquarium on December 1, 2020, to be safe and effective in preventing breeding of any of the imported beluga whales with the following conditions hereby incorporated:

1. Prior to importation, the female beluga whales authorized by the permit must be examined to confirm they are not pregnant.¹
2. Once at Mystic Aquarium, reproductive monitoring must immediately be initiated on the female beluga whales authorized by the permit that are age 6 and older.² This monitoring must be conducted via ultrasound and, if determined appropriate by the attending veterinarian, via other sampling³. The timing and frequency of ultrasounds and other sampling must be conducted to account for the possibility of multiple reproductive cycles⁴ over the entirety of each breeding season (typically January through June⁵). Once ovarian cycling is confirmed complete via ultrasound, the females authorized by the permit can rejoin a social group containing any reproductive male no sooner than three days after ovulation or resorption.

¹50 CFR §216.35(d) and Permit Condition III.B.6.d.

²Sexual maturity in free-ranging and captive female beluga whales is estimated at 6–7 years (Robeck et al. 2005; Robeck et al. 2018).

³In addition to ultrasound, which is effective for monitoring reproductive status in both males (Richard et al. 2017) and females (Steinman et al. 2012), to implement the plan the attending veterinarian may utilize sampling described in Study 7 and as authorized in Appendix 1, Table 1 (see footnote 1) of the permit, as amended. Urinary endocrine monitoring has also been included in Appendix 1, Table 1 as an indicator of beluga whale reproductive cycles (Steinman et al. 2012).

⁴Female beluga whales may spontaneously ovulate and have been observed to have an inter-estrous interval of approximately 34 days during the breeding season (Steinman et al. 2012).

⁵As defined by Robeck et al. 2005.

3. Physical separation of any male imported under the permit from any reproductively viable female at Mystic⁶ must begin at age 8⁷ or, if testicular ultrasound or other sampling will be performed, when he is first determined to be sexually mature, whichever is earlier.

Mystic Aquarium must implement the protocols described in the plan, including the above conditions, to be compliant with the terms and conditions of the permit, as amended. The authority to conduct certain activities specified in the permit, including but not limited to implementation of and compliance with the plan, is conditional and subject to authorization by the Office Director.⁸ Any changes to the plan as amended by the conditions above, must be approved by the Office Director. You must submit any changes no later than October 1 annually for approval. In addition, annual reports must include a summary of the implementation of the plan during the previous breeding season.

We expect the plan will be effective, but in the unlikely event that the plan should fail and any of the imported beluga whales breed, this would be a violation of the Marine Mammal Protection Act. Breeding the imported beluga whales could subject Mystic Aquarium to civil and criminal penalties; seizure and forfeiture of the imported beluga whales and their progeny; and permit modification, suspension, or revocation.

Please contact Amy Sloan (Amy.Sloan@noaa.gov) of my staff, if you have any questions.

Sincerely,

Donna S. Wieting
Director
Office of Protected Resources

Enclosure

cc w/ enclosure: Anna Barry, USFWS
Barbara Kohn, D.V.M., USDA/APHIS
Peter Thomas, Ph.D., Marine Mammal Commission

⁶Including those held for public display purposes that are not subject to the permit.

⁷Sexual maturity in free-ranging and captive male beluga whales is estimated at 8–9 years (Robeck et al. 2005; Robeck et al. 2018).

⁸Permit Condition III.J.1.b.

Enclosure: References

Richard, J. T., Schmitt, T., Haulena, M., Vezzi, N., Dunn, J. L., Romano, T. A., and Sartini, B. L. 2017. Seasonal variation in testes size and density detected in belugas (*Delphinapterus leucas*) using ultrasonography. *Journal of Mammalogy*, 98(3), 874-884.

Robeck, T. R., Monfort, S. L., Calle, P. P., Dunn, J. L., Jensen, E., Boehm, J. R., Young, S., and Clark, S. T. 2005. Reproduction, growth and development in captive beluga (*Delphinapterus leucas*). *Zoo Biology*, 24(1), 29-49.

Robeck, T., O'Brien, J., and Atkinson, S. 2018. Reproduction. *In*: F.M. Gulland, L. A. Dierauf, and K. L. Whitman (Eds.), *CRC Handbook of Marine Mammal Medicine, 3rd Edition* (pp. 169-207). CRC Press.

Steinman, K. J., O'Brien, J. K., Monfort, S. L., and Robeck, T. R. 2012. Characterization of the estrous cycle in female beluga (*Delphinapterus leucas*) using urinary endocrine monitoring and transabdominal ultrasound: evidence of facultative induced ovulation. *General and Comparative Endocrinology*, 175(3), 389-397.