

December 21, 2016

VIA EDGAR

Division of Corporation Finance
Securities and Exchange Commission
100 F Street N.E.
Washington, D.C. 20549
Attention: J. Nolan McWilliams

**Re: AquaBounty Technologies, Inc.
Amendment No. 1 to Form 10-12B
Filed December 12, 2016
File No. 001-36426**

Ladies and Gentlemen:

Set forth below are the responses of AquaBounty Technologies, Inc. (the “**Company**”) to the comments of the staff (the “**Staff**”) of the Division of Corporation Finance of the Securities and Exchange Commission (the “**Commission**”) contained in the Staff’s letter dated December 20, 2016 relating to the Company’s Amendment No. 1 to the Registration Statement on Form 10 (the “**Registration Statement**”). We are also filing simultaneously herewith Amendment No. 2 (“**Amendment No. 2**”) to the Registration Statement. Capitalized terms used but not defined herein have the meanings set forth in the Registration Statement. For reference, the Staff’s comments are provided below in bold immediately prior to the Company’s responses.

Exhibit 99.1

Atlantic Salmon Disease Impact, page 58

- 1. We note your response to comment 15. Please briefly discuss the reasons for your belief that the RAS that you use comprise a less disease-prone environment than the sea cages employed in conventional salmon aquaculture.**

Response:

In response to the Staff’s comment, the Company has updated the disclosure on pages 59 and 60 of Amendment No. 2.

Our Product, page 59

- 2. We note your response to prior comment 16. Please clarify that you relied on internally generated data to support your statement that AquAdvantage Salmon do not reach a larger final size than their traditional counterparts. Additionally, please briefly explain to us how the table that you present in your response supports this conclusion.**

Response:

In response to the Staff's comment, the Company has updated the disclosure on page 60 of Amendment No. 2. The table we presented in the Company's response to prior comment 16, which was based on the analysis of the Company's internally generated data, was provided to show that while AquAdvantage Salmon feature an accelerated growth rate in early development stages, the specific growth rate slows and becomes substantially identical to that of non-transgenic Atlantic salmon by the time the fish are approximately one kilogram in weight.

The table shows the convergence of the average weights of both AquAdvantage Salmon and non-transgenic Atlantic salmon at both three and four years of age. After growing at up to double the rate of controls in earlier stages, AquAdvantage stock are only 20.8% larger on average than the fish in the control group by the three-year mark. By the fourth year of life, that difference has shrunk to 6.9% (approximately 1.6 pounds for a 25.6-pound fish).

* * * *

In connection with the Company's response to the Staff's comments, the Company acknowledges that:

- the Company is responsible for the adequacy and accuracy of the disclosure in the filing;
- Staff comments or changes to disclosure in response to Staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the Company may not assert Staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please call Brad Brassler at (312) 269-4252 should you wish to discuss the matters addressed above or other issues relating to the subject Form 10. Thank you for your attention to this matter.

Very truly yours,

/s/ Ronald L. Stotish

Ronald L. Stotish
Chief Executive Officer

cc: BradBrasser
JonesDay

William Intner
Hogan Lovells

David Frank
AquaBounty Technologies, Inc.

Christopher Martin
AquaBounty Technologies, Inc.