# UNITED STATES SECURITIES AND EXCHANGE COMMISSION

**Washington, D.C. 20549**

# Form 10-K

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2023

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from ________________ to ________________

Commission file number: 001-36426

# AquaBounty Technologies, Inc.

(Exact name of registrant as specified in its charter)

| | |
|---|---|
| **Delaware** | **04-3156167** |
| (State or other jurisdiction of incorporation or organization) | (I.R.S. Employer Identification No.) |

**233 Ayer Road, Suite 4**
**Harvard, Massachusetts 01451**
**(978) 648-6000**

(Address and telephone number of the registrant's principal executive offices)

Securities registered pursuant to Section 12(b) of the Act:

| Title of each class | Trading Symbol(s) | Name of each exchange on which registered |
|---|---|---|
| **Common Stock, par value $0.001 per share** | **AQB** | **The NASDAQ Stock Market LLC** |

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.
Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.
Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).
Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☐ Accelerated filer ☐ Non-accelerated filer ☒ Smaller reporting company ☒ Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☐

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

At June 30, 2023, the aggregate market value of the 3,806,404 shares of common stock held by non-affiliates of the registrant was approximately $27.0 million. At March 29, 2024, the registrant had 3,857,444 shares of common stock outstanding.

**DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the registrant's Proxy Statement for its Annual Meeting of Stockholders to be held on May 23, 2024 (the "2024 Proxy Statement"), are incorporated by reference into Part III of this Annual Report on Form 10-K.

## ANNUAL REPORT ON FORM 10-K

## FOR THE FISCAL YEAR ENDED DECEMBER 31, 2023

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## CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K of AquaBounty Technologies, Inc. ("AquaBounty," the "Company," "we," "us" or "our"), particularly the sections titled "Summary," "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business," contains forward-looking statements. All statements other than present and historical facts and conditions contained in this Annual Report on Form 10-K, including statements regarding our future results of operations and financial position, business strategy, plans, and our objectives for future operations, are forward-looking statements. When used in this Annual Report on Form 10-K, the words "anticipate," "believe," "can," "could," "estimate," "expect," "intend," "is designed to," "may," "might," "plan," "potential," "predict," "objective," "should," or the negative of these and similar expressions identify forward-looking statements. These forward-looking statements include statements that are not historical facts, including statements regarding management's expectations for future financial and operational performance and operating expenditures, expected growth, and business outlook; the nature of and progress toward our commercialization plan; the future introduction of our products to consumers; the countries in which we may obtain regulatory approval and the progress toward such approvals; the volume of eggs or fish we may be able to produce; the timeline for our production of saleable fish; the expected advantages of land-based systems over sea-cage production; the validity and impact of legal actions; the completion of renovations at our farms; and the establishment of a larger-scale grow-out facility.

We have based these forward-looking statements on our current expectations, assumptions, estimates, and projections. While we believe these expectations, assumptions, estimates, and projections are reasonable, such forward-looking statements are only predictions and involve known and unknown risks, uncertainties, and other factors, many of which are outside of our control, which could cause our actual results, performance, or achievements to differ materially from any results, performance, or achievements expressed or implied by such forward-looking statements. These risks and uncertainties include, but are not limited to:

- our history of net losses and the likelihood of future net losses;
- our ability to continue as a going concern;
- our ability to raise additional funds, in sufficient amounts on a timely basis, on acceptable terms, or at all;
- our ability to raise substantial additional capital on acceptable terms, or at all, which is required to implement our business strategy as planned, or at all;
- our ability to attract and retain key personnel, including key management personnel;
- our ability to retain and reengage key vendors and engage additional vendors, as needed;
- our ability to obtain approvals and permits to construct and operate our farms without delay;
- increases in interest rates;
- delays and defects that may prevent the commencement of farm operations;
- rising inflation rates;
- our ability to finance our Ohio farm through the placement of municipal bonds, which may require restrictive debt covenants that could limit our control over the farm's operation and restrict our ability to utilize any cash that the farm generates;
- our ability to manage our growth, which could adversely affect our business;
- risks related to potential strategic acquisitions, investments or mergers;
- high customer concentration, which exposes us to various risks faced by our major customers;
- ethical, legal, and social concerns about genetically engineered products;
- our ability to gain consumer acceptance of our genetically engineered Atlantic salmon ("GE Atlantic salmon" or "AquAdvantage salmon") product;
- the quality and quantity of the salmon that we harvest;
- a significant fish mortality event in our broodstock or our production facilities;
- the loss of our GE Atlantic salmon broodstock;
- disease outbreaks, which can increase the cost of production and/or reduce production harvests;
- a shutdown, material damage to any of our farms, or lack of availability of power, fuel, oxygen, eggs, water, or other key components needed for our operations;
- our ability to efficiently and cost-effectively produce and sell salmon at large commercial scale;
- any contamination of our products, which could subject us to product liability claims and product recalls;

- security breaches, cyber-attacks and other disruptions could compromise our information, expose us to fraud or liability, or interrupt our operations;
- our dependence on third parties for the processing, distribution, and sale of our products;
- any write-downs of the value of our inventory;
- business, political, or economic disruptions or global health concerns;
- adverse developments affecting the financial services industry;
- industry volatility, including fluctuations in commodity prices of salmon;
- restrictions on Atlantic salmon farming in certain states;
- agreements that require us to pay a significant portion of our future revenue to third parties;
- our ability to receive additional government research grants and loans;
- international business risks, including exchange rate fluctuations;
- our ability to use net operating losses and other tax attributes, which may be subject to certain limitations;
- our ability to maintain regulatory approvals for our GE Atlantic salmon and our farm sites and obtain new approvals for farm sites and the sale of our products in other markets;
- our ability to continue to comply with U.S Food and Drug Administration ("FDA") regulations and foreign regulations;
- significant regulations in the markets in which we intend to sell our products;
- significant costs complying with environmental, health, and safety laws and regulations, and any failure to comply with these laws and regulations;
- increasing regulation, changes in existing regulations, and review of existing regulatory decisions;
- lawsuits by non-governmental organizations and others who are opposed to the development or commercialization of genetically engineered products;
- risks related to the use of the term "genetically engineered," which will need to be included as part of the acceptable market name for our GE Atlantic salmon, and bioengineering disclosures provided in accordance with U.S. Department of Agriculture ("USDA") regulations;
- competitors and potential competitors may develop products and technologies that make ours obsolete or garner greater market share than ours;
- any theft, misappropriation, or reverse engineering of our products could result in competing technologies or products;
- our ability to protect our proprietary technologies and intellectual property rights;
- our ability to enforce our intellectual property rights;
- volatility in the price of our shares of common stock;
- our ability to maintain our listing on the Nasdaq Stock Market LLC ("Nasdaq");
- our success in growing, or our perceived ability to grow, our GE Atlantic salmon successfully and profitably at commercial scale;
- an active trading market for our common stock may not be sustained;
- our status as a "smaller reporting company" and a "non-accelerated filer" may cause our shares of common stock to be less attractive to investors;
- any issuance of preferred stock with terms that could dilute the voting power or reduce the value of our common stock;
- provisions in our corporate documents and Delaware law could have the effect of delaying, deferring, or preventing a change in control of us;
- our expectation of not paying cash dividends in the foreseeable future; and
- other risks and uncertainties referenced under "Risk Factors" below and in any documents incorporated by reference herein.

We caution you that the foregoing list may not contain all of the risks to which the forward-looking statements made in this Annual Report on Form 10-K are subject. We may not actually achieve the plans, intentions, or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions, and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements, particularly in the section titled "Risk Factors," that could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures, or investments that we may make.

Given these risks and uncertainties, you are cautioned not to place undue reliance on such forward-looking statements. These forward-looking statements are made only as of the date of this Annual Report on Form 10-K. We do not undertake and specifically decline any obligation to update any such statements or to publicly announce the results of any revisions to any such statements to reflect future events or developments unless required by federal securities law. New risks emerge from time to time, and it is not possible for us to predict all such risks.

## SUMMARY OF THE MATERIAL RISKS ASSOCIATED WITH OUR BUSINESS

Our business is subject to numerous risks and uncertainties that you should be aware of in evaluating our business, including those described in the "Risk Factors" section in Part I, Item 1A. of this Annual Report on Form 10-K. These risks and uncertainties include, but are not limited to, the following:

- We have a history of net losses and will likely incur future losses and may not achieve or maintain profitability.
- There is substantial doubt about our ability to continue as a going concern.
- Our current business plans include the need for substantial additional capital, and without it, we may not be able to implement our strategy as planned or at all.
- There can be no assurance that additional funds will be available on a timely basis, on acceptable terms, or at all, or that such funds, if raised, would be sufficient to enable us to continue to implement our business strategy.
- If we lose key personnel, including key management personnel, or are unable to attract and retain additional personnel, it could delay our commercialization plans or harm our research and development efforts, and we may be unable to sell or develop our own products.
- If we lose key vendors, including those necessary to complete the construction of our Ohio farm, or are unable to engage additional vendors, it could delay our construction or commercialization plans.
- We require approvals and permits to construct and operate our farms, and any delay or denial of those approvals or permits could potentially delay or halt certain operations and commercial efforts.
- Increases in interest rates have increased our expected borrowing costs and may also affect our ability to obtain working capital through borrowings, such as bank credit lines and public or private sales of debt securities.
- Delays and defects may prevent the commencement of farm operations.
- Rising inflation rates could negatively impact our revenues and profitability.
- The financing of our Ohio farm through the placement of municipal bonds may require restrictive debt covenants that could limit our control over the farm's operation and restrict our ability to utilize a portion of any cash that the farm generates.
- We may encounter difficulties managing our growth, which could adversely affect our business.
- We may pursue strategic acquisitions, investments or mergers that could have an adverse impact on our business if they are unsuccessful.
- High customer concentration exposes us to various risks faced by our major customers and may subject us to significant fluctuations or declines in revenues.
- Ethical, legal, and social concerns about genetically engineered products could limit or prevent the use of our products and limit our revenues.
- We may have limited success in gaining consumer acceptance of our products.
- Our business is affected by the quality and quantity of the salmon that we harvest.
- We may experience a significant fish mortality event in our broodstock or our production facilities that could impact the price of our common stock.
- The loss of our GE Atlantic salmon broodstock could result in the loss of our commercial technology.
- Atlantic salmon farming is subject to disease outbreaks, which can increase the cost of production and/or reduce production harvests.
- A shutdown, material damage to any of our farms, or lack of availability of power, fuel, oxygen, eggs, water, or other key components needed for our operations, could result in our prematurely harvesting fish, a loss of a material percentage of our fish in production, and a delay in our commercialization plans.
- The successful development of our business depends on our ability to efficiently and cost-effectively produce and sell salmon at large commercial scale.
- If our products become contaminated, we may be subject to product liability claims and product recalls.
- Security breaches, cyber-attacks and other disruptions could compromise our information, expose us to fraud or liability, or interrupt our operations, which would cause our business and reputation to suffer.
- We remain dependent on third parties for the processing, distribution, and sale of our products.
- We may be required to write-down the value of our inventory if its net realizable value is less than its accumulated cost at the end of a reporting period.

- Business, political, or economic disruptions or global health concerns could seriously harm our current or planned business and increase our costs and expenses.
- Adverse developments affecting the financial services industry, including events or concerns involving liquidity, defaults or non-performance by financial institutions or transactional counterparties, could adversely affect our business, financial condition or results of operations.
- Industry volatility can affect our earnings, especially due to fluctuations in commodity prices of salmon.
- Atlantic salmon farming is restricted in certain states.
- We have entered into agreements that require us to pay a significant portion of our future revenue to third parties.
- We have received government research grants and loans in the past, but such grants and loans may not be available in the future.
- Our financial condition or results of operations may be adversely affected by international business risks, including exchange rate fluctuations.
- Our ability to use net operating losses and other tax attributes to offset future taxable income may be subject to certain limitations.
- Our ability to generate revenue to support our operations depends on maintaining regulatory approvals, and we or regulatory agencies approving our products may be sued by non-governmental organizations and others.
- We are and will be required to continue to comply with certain laws and regulations, including FDA, USDA, environmental, health, and safety and foreign laws and regulations, and regulatory decisions.
- We are subject to risks relating to our intellectual property rights.
- The price of our shares of common stock is likely to be volatile, and an active trading market for our common stock may not be sustained.
- We may not be able to maintain our listing on Nasdaq which could limit investors' ability or willingness to make transactions in our securities and subject us to additional trading restrictions.
- We are a “smaller reporting company” and a “non-accelerated filer” and we cannot be certain if applicable scaled disclosure requirements will make our shares of common stock less attractive to investors.
- We may issue preferred stock with terms that could dilute the voting power or reduce the value of our common stock.
- Provisions in our corporate documents and Delaware law could have the effect of delaying, deferring, or preventing a change in control of us, even if that change may be considered beneficial by some of our stockholders.
- We do not anticipate paying cash dividends in the foreseeable future.

The summary risk factors described above should be read together with the text of the full risk factors below, in the section entitled “Risk Factors” and in the other information set forth in this Annual Report on Form 10-K, including our financial statements and the related notes, as well as in other documents that we file with the U.S. Securities and Exchange Commission, or the SEC.

***Where You Can Find More Information***

We file with the Securities and Exchange Commission (the “SEC”) periodic reports and other information, including our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). The SEC maintains an internet site at www.sec.gov that contains reports, proxy and information statements, and other information regarding issuers that file, as we do, electronically with the SEC.

All of these documents are available free of charge on our website, www.aquabounty.com, and will be provided free of charge to stockholders requesting a copy by writing to: Corporate Secretary, AquaBounty Technologies, Inc., 233 Ayer Road, Suite 4, Harvard, Massachusetts 01451, Telephone: (978) 648-6000. We use our website as a channel for routine distribution of important information, including news releases, analyst presentations, and financial information. In addition, our website allows investors and other interested persons to sign up to automatically receive e-mail alerts when we post news releases and financial information on our website. The information contained on, or accessible from, our website or in any other report or document we file with or furnish to the SEC is intended to be inactive textual references only, and is not incorporated by reference into this Annual Report on Form 10-K.

# Part I

## Item 1. Business

**Overview**

*Company Update*

AquaBounty has been pursuing a growth strategy that includes the construction of large-scale recirculating aquaculture system farms for producing our GE Atlantic salmon. Our farm in Pioneer, Ohio is under construction and roughly 30% complete, but construction activities have been paused. To fund the construction cost, we were using cash on hand, which would be supplemented by a municipal bond financing. However, during the initial two years of construction, the cost estimate for the farm increased substantially and eventually exceeded our ability to complete the proposed financing. Consequently, the Company requires new financing to provide liquidity for working capital and to fund the construction of our farm in Pioneer, Ohio. To meet this need, we have engaged an investment bank to pursue a range of funding and strategic alternatives, including the recently announced sale process for our Indiana farm, potential debt financing secured by our unencumbered assets, and potential joint venture partnerships or other strategic transactions.

*Feed a growing world by developing and deploying new aquaculture technologies.*

AquaBounty was incorporated in December 1991 in the State of Delaware for the purpose of conducting research and development of the commercial viability of a group of proteins commonly known as antifreeze proteins. In 1996, we obtained the exclusive licensing rights for a gene construct (transgene) used to create a breed of farm-raised Atlantic salmon that exhibits growth rates that are substantially faster than conventional salmon.

At AquaBounty, our Purpose is to “Feed a growing world by transforming aquaculture through the use of technology, creating a safe, secure and sustainable future.” We demonstrate our care for our people, our environment and our fish through our EPIC Values which include: “Excellence, Passion, Innovation and Collaboration.” We believe we are a leader in the field of land-based aquaculture and the use of technology for improving its productivity and sustainability. Our objective is to ensure the availability of high-quality seafood to meet growing global consumer demand, while addressing critical production constraints in one of the most popular farmed species.

Aquaculture is the farming of aquatic organisms such as fish, shellfish, crustaceans, and aquatic plants. It involves cultivating freshwater or saltwater species under controlled conditions, as an alternative to the commercial harvesting of wild species of aquatic organisms. According to the Food and Agriculture Organization of the United Nations (“FAO”), aquaculture was a $265 billion industry in 2020, and we are targeting the $22 billion salmon farming segment of that industry.

We believe that AquaBounty has four core competencies that provide us with a competitive advantage over other land-based salmon farmers: our proprietary genetically engineered Atlantic salmon (“GE Atlantic salmon” or “AquAdvantage salmon”), our experience operating land-based farms, our vertical integration, and our expertise in biotechnology.

Our GE Atlantic salmon is based upon proprietary salmon genetics and grows to harvest size faster, while consuming less feed, than conventional Atlantic salmon. With our salmon, we can produce more output at a lower cost in a land-based farm than with conventional salmon. Our GE Atlantic salmon was approved for production, sale, and consumption in the United States on November 19, 2015 by the FDA. This was followed by an approval from Health Canada for the production, sale, and consumption of our salmon in Canada on May 19, 2016 and an approval from the National Biosafety Technical Commission for the sale and consumption of our salmon in Brazil on May 12, 2021. Consequently, we have received approvals for our GE Atlantic salmon from what we believe are three of the most respected and rigorous regulatory agencies in the world.

We farm our GE Atlantic salmon in land-based, recirculating aquaculture systems (“RAS”), which allow land-based fish farms to be established close to major demand centers in a profitable and environmentally sustainable manner. We have over 25 years of experience growing salmon in RAS farms, which are bio-secure, so we do not need to use vaccines or antibiotics to protect our fish. We control and optimize their living environment to promote their general health. By locating our farms near to major food markets, we reduce our transportation costs and carbon footprint.

We are vertically integrated and maintain our own broodstock hatchery, which produces the eggs that we grow-out to harvest size in our production farms. This hatchery also produces non-GE eggs for external sales.

We have our own research and development team with expertise in biology, chemistry and RAS operations.  This allows us to continuously focus on improving the breeding, genetics and health of our fish and improving the efficiency of our farm operations.

We currently operate two salmon farms: a refurbished production grow-out farm in Indiana and a broodstock farm on Prince Edward Island, Canada. Our plans include completing the construction of a 10,000 metric ton production grow-out farm in Pioneer, Ohio and expanding our egg production and sales. In February 2024, we announced our plan to sell our Indiana farm operations to provide needed liquidity, while focusing on financing alternatives necessary to resume construction on the Ohio farm. We are also pursuing regulatory approval for our GE Atlantic salmon in Israel, with the goal of entering that market with a local partner in the form of a joint venture or licensing arrangement.  Additionally, we plan to utilize our expertise in biotechnology and RAS operations to enter complimentary areas of the aquaculture industry, with an initial focus on shrimp.

Our strategy is to continually strengthen our core capabilities, scale our business and pursue growth opportunities.

**Reverse Stock Split**

On October 12, 2023, the stockholders of the Company approved a reverse stock split of the Company's common stock, and the Board of Directors approved a split ratio of 1-for-20.  The reverse stock split was implemented on October 16, 2023.  In conjunction with the reverse stock split, the number of shares of common stock authorized for issuance was reduced from 150 million to 75 million.  All share and per share information in this Annual Report on Form 10-K have been adjusted to reflect this change.

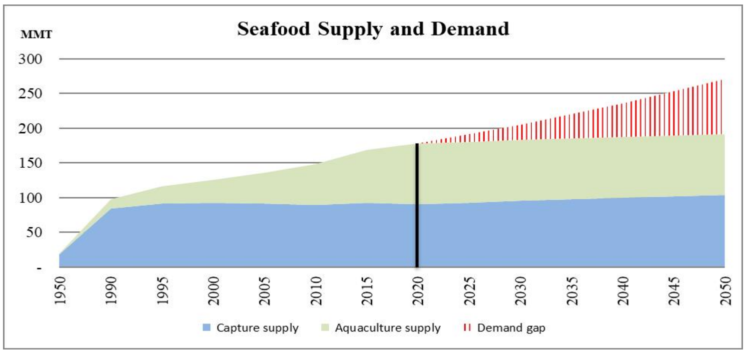
**Market Drivers**

*Population Growth Drives Demand for Food Protein*

According to FAO, global population is projected to reach 9.7 billion people by 2050, or roughly 20% growth over the next 26 years.  In addition to the increased demand for food from the rising population, increased incomes and urbanization from a growing middle class will drive increased demand for protein food sources.  According to FAO, global fish consumption has been growing faster than all other animal protein foods.

*Traditional Fisheries Cannot Meet the Demand*

The increased demand for fish protein cannot be satisfied from traditional capture fisheries.  FAO research indicates that 25% of all major marine fisheries are subjected to severe overfishing, while an additional 52% are fully exploited.  Total production from global capture fisheries has been relatively stable since the late-1980s, with catches generally fluctuating between 86 million metric tons and 96 million metric tons per year, with 90 million metric tons recorded in 2020, the last year for which data is available from FAO.  In contrast, over the same period, aquaculture fish production has grown from 14 million metric tons to a level of 88 million metric tons in 2020 and now accounts for 49% of global fish production.  Feeding the growing population and meeting the demand for fish protein will require aquaculture production to nearly double by 2050.  The chart below depicts the projected gap between supply and demand over the projected period.




Source: FAO – The State of World Fisheries and Aquaculture 2022 for actual data through 2020.  Company estimates based on FAO growth projections.

*Salmon Farming*

Atlantic salmon farming is a major industry in the cold-water countries of the northern and southern hemispheres. According to Kontali, global Atlantic salmon aquaculture harvests grew by approximately 5% annually between 2017 and 2022, reaching 2.9

million metric tons with a value of $22 billion. We believe that the aquaculture industry – and in particular salmon farming – is poised for significant growth in the coming years, as the global population continues to expand and consumers seek out high-quality proteins.
Below is a break-down by major producing country for the time period 2017 through 2022 from Kontali.

**Worldwide Harvest of Atlantic Salmon in thousands of metric tons (whole fish equivalent)**

| Area | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|
| Norway | 1,208 | 1,253 | 1,333 | 1,370 | 1,534 | 1,517 |
| Chile | 564 | 660 | 690 | 779 | 718 | 753 |
| United Kingdom | 177 | 152 | 191 | 178 | 199 | 165 |
| North America | 159 | 165 | 159 | 157 | 161 | 152 |
| Faroe Islands | 80 | 72 | 87 | 81 | 106 | 100 |
| Other areas | 105 | 101 | 118 | 148 | 178 | 180 |
| Volume-Worldwide | 2,293 | 2,403 | 2,578 | 2,713 | 2,896 | 2,867 |

Source: Kontali, Salmon World 2023

*Limitations of Conventional Sea-Cage Salmon Farming*

Conventional salmon aquaculture takes place in large cages (sea-cages) in coastal waterways exposed to currents, which can bring a variety of pathogens in contact with the farmed salmon. The presence of pathogens in an uncontrolled environment such as this is a universally accepted fact in human and animal health. Such disease agents in these uncontrolled water currents can result in infection and spread of infection within the captive population. The risks and outcomes of conventional, open sea-cage systems are well established, including the susceptibility to extreme weather conditions, and are often evidenced by outbreaks of a variety of bacterial and viral diseases, as well as water fouling and contamination due to algal blooms and similar events. This risk of disease has led to the widespread use of antibiotics, vaccines, and other pharmacological agents.

The most prevalent disease and health management issues are infectious salmon anemia ("ISA") and sea lice. ISA is a viral disease in Atlantic salmon, and outbreaks have occurred in virtually every major salmon farming geography since 1984, including a major event in Chile in 2008 that impacted the country's production for three years. There is currently no effective treatment for the disease, and the salmon farming industry relies on health management practices to mitigate its impact. Sea lice are marine parasites that occur naturally and attach to the skin of Atlantic salmon. Even a few sea lice can increase the likelihood of secondary infections and mortality, and the presence of significant numbers is likely to have adverse effects on fish health and aesthetic appearance. The cost of managing sea lice in sea-cage farming environments can be significant. Other viral diseases, such as salmonid rickettsial septicemia ("SRS"), continue to present significant challenges, while new emerging diseases caused by viruses, including heart and skeletal muscle inflammation ("HSMI") and cardio myopathy syndrome ("CMS"), are on the rise.

Another limitation of the conventional salmon production system is that the farms are not located near the ultimate consumers, and thus, an additional carbon footprint is created in transporting the fish from its production to its consumption location.

We believe we offer a better, more sustainable alternative to conventional salmon production.

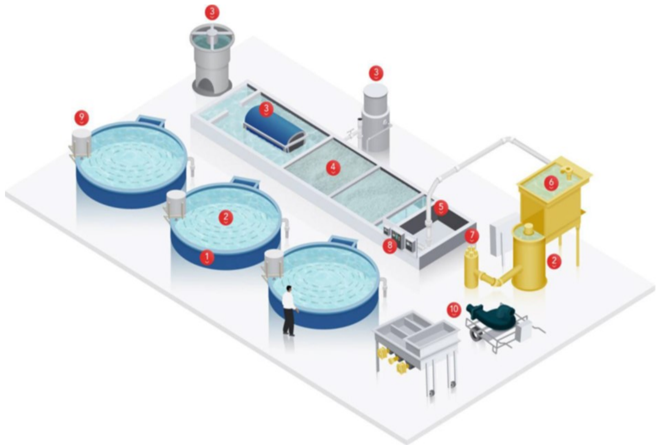
**AquaBounty Solution**

*Land-Based RAS Production*

The closed, contained, land-based production systems using RAS technology that we use for the grow-out of our fish are less susceptible to the disease-related pressures of conventional salmon farming, because this type of culture system is isolated from the environment. RAS facilities employ sophisticated water treatment technology, including the use of ozone, salt treatment and ultraviolet radiation to kill potential bacterial, fungal, or viral pathogens which might enter the system. In addition, incoming water is similarly filtered and treated prior to entering the system, and water quality is regularly measured as part of the standard procedures. The fish in RAS facilities are generally not vaccinated against typical fish diseases, and no antibiotics, pesticides, or pharmacological agents are typically required. RAS facilities employ effective biosecurity to prevent disease by reducing or eliminating the introduction of pathogens and continuously treating the water to assure optimal fish health. RAS production allows our fish to be raised in optimized conditions with total control of the water coming in and going out of the system, while recirculating greater than 95% of the water used. Further, stocking our RAS farms with disease-free eggs from our own hatchery results in a much higher degree of biosecurity and protection from disease.

In addition to biosecurity measures to optimize fish health, our farms feature multiple layers of containment designed to prevent escapes. We have been growing fish in RAS facilities for over two decades, and we have never experienced an escape. The multiple layers of containment redundancy, coupled with the fact that our salmon are sterile female fish, pose a much-needed solution to raising fresh, healthy seafood in a manner that prevents harming native fish populations. The method of land-based fish farming that we employ has been promoted by many environmental non-governmental organizations (“NGOs”), and it does not pose a threat to wild salmon populations.

We have significant experience in operating land-based RAS facilities. Our operating practices and procedures have been developed and honed over two decades and are geared towards meeting stringent regulatory requirements. Our experience operating land-based RAS salmon farms enables us to protect both the fish and the environment.



1. Fish culture tanks
2. Tank emergency aeration
3. Microscreen filter (solids filtration
4. Protein skimmer (fine solids filtration)
5. MBBR (biofiltration)
6. Pumping system
7. CO2 degassing (gas management)
8. Oxygen injection gas management)
9. Ozone disinfection (WQ control)
10. UV disinfection

Source: Innovasea

*Our GE Atlantic Salmon*

Our GE Atlantic salmon program began over 30 years ago and is based upon a single, specific molecular modification in our salmon that results in more rapid growth during early development. The result is a genetically engineered Atlantic salmon that can grow to market size faster than a conventional farmed Atlantic salmon.

The original research on the Atlantic salmon was conducted at Memorial University in Newfoundland, Canada, by a team seeking to protect the fish from the effects of the cold waters of the North Atlantic Ocean. They discovered that the single genetic change made by placing a second copy of the salmon growth hormone gene under the control of an alternative genetic promoter (gene switch) from the ocean pout resulted in more consistent levels of growth hormone being released, which accelerated the early stages of the salmon’s development, a time period when the salmon are more susceptible to disease and mortality. The accelerated growth allows these fish to reach a marketable size sooner. This can reduce farming time in a RAS facility from roughly 26 to 28 months for conventional Atlantic salmon to roughly 18 to 20 months for our salmon.

This accelerated growth has economic and environmental advantages. The faster life cycle from hatch to harvesting of our salmon, as compared to conventional salmon, allows it to be produced more economically in contained, land-based RAS farms. Although RAS farms require greater capital investment than the sea-cage approach, we believe that the higher costs are offset by more efficient growth and a shorter transportation distance to market. Compared to conventional salmon grown in a RAS farm with a similar capital investment, we can produce approximately 70% more of our GE Atlantic salmon each year. Our fish are also 25% more efficient at converting their feed to biomass, which represents a significant cost advantage as feed is the largest variable cost of growing salmon. Further, locating our farms closer to major food markets allows us to realize savings on transportation of the harvested stock, while maintaining a reduced carbon footprint, and an improved ability to get fresh product to market faster.

*Intellectual Property*

Our GE Atlantic salmon is based upon a single, specific molecular modification in the fish that results in more rapid growth in early development. The patent for the underlying technology, which had been issued in certain salmon producing countries, expired in August 2013, and we currently hold a global, perpetual, royalty-free, fully paid, sub-licensable, assignable, non-exclusive right to the technology covering genetically engineered salmonid fish that express endogenous growth hormone under the control of a protein gene promoter from an edible fish. Despite the expiration of the patent for the licensed technology, we believe that the degree of know-how in the molecular modification process and the regulatory timescales associated with approval of genetically engineered fish present significant barriers to entry and a competitive advantage.

We rely on a combination of patent, trademark, and trade secret laws in the United States and applicable foreign jurisdictions, as well as confidentiality procedures and contractual provisions, to protect our proprietary technology, processes, and brand. In December 2015, we were granted a U.S. patent for our molecular sterility system, which renders sterile the progeny of any female fish carrying a defined maternal sterility gene. Subsequently, the maternal sterility patent has been issued in Australia, Brazil, Canada, Chile, Japan, and the Republic of Korea. While the technology described in the sterility system patent is not required under any of our current regulatory approvals, the technology may be desirable in the future to obtain or maintain regulatory approvals.

**Regulatory Aspects of Genetically Engineered Fish**

The genetic engineering of food using the tools of modern biotechnology is regulated in the United States by two government organizations, the USDA for genetically engineered plants and the FDA for genetically engineered animals.

The regulatory process for genetically engineered food and animal feed is based upon the Coordinated Framework issued by the Office of Science and Technology Policy in 1986, but the enabling legislation is the Federal Food, Drug, and Cosmetic Act ("FFDCA"). The FDA is also required to determine the environmental impact of a proposed application under the National Environmental Policy Act ("NEPA"). In the case of animals intended for food or materials for feed, the FDA process is a pre-approval review followed by an approval if the application is acceptable under the relevant legislation, with ongoing oversight following approval.

We opened an Investigational New Animal Drug file for AquAdvantage salmon with the FDA in 1995. At that time, there was no defined regulatory framework for the regulation of bioengineered animals. There were, however, certain studies that were generally acknowledged to be necessary for an eventual approval process. We commenced work on those studies and began a phased submission of studies to the FDA that ultimately was responsive to each technical section of the New Animal Drug Application ("NADA"). These technical sections require submission of studies relating to molecular characterization of the construct; molecular characterization of AquAdvantage salmon lineage; phenotypic characterization of AquAdvantage salmon; a genotypic and phenotypic durability plan; support for environmental, food, and feed safety; and claim validation. The FDA's phased review process, which included a cycle of study conduct, submission, review, and acceptance, continued over the period from 1995 to 2010. Following this process, the FDA concluded that AquAdvantage salmon "is as safe as food from conventional salmon, and that there is a reasonable certainty of no harm from consumption of food" from AquAdvantage salmon. On November 19, 2015, the FDA issued an approval letter for the NADA for AquAdvantage salmon, along with a final Environmental Assessment ("EA") and a finding of No Significant Impact on the EA under NEPA.

*Regulatory Legal Challenge*

On March 30, 2016, a coalition of NGOs filed a complaint in the United States District Court for the Northern District of California against the FDA, the United States Fish and Wildlife Service, and related individuals for their roles in the approval of AquAdvantage salmon. Subsequently, AquaBounty joined the case as an intervenor to protect our interests. Shortly thereafter, the Fish and Wildlife Service was dismissed from the case. The NGOs, including the Center for Food Safety and Friends of the Earth, claimed that the FDA had no statutory authority to regulate genetically engineered animals, and, if it did, that the agency failed to adequately analyze and implement measures to mitigate ecological, environmental, and socioeconomic risks that could impact wild salmon and the environment, including the risk that AquAdvantage salmon could escape and threaten endangered wild salmon stocks. In December 2019, the court found that the FDA did have authority/jurisdiction over genetically engineered animals under the FFDCA, and in November 2020, the court remanded the EA to the FDA for further work on its NEPA and Endangered Species Act ("ESA") assessments. In December 2020, the plaintiffs filed a motion to alter or amend the judgment. In February 2021, the judge denied that motion. The court's decisions do not have a current business impact on AquaBounty's egg production on Prince Edward Island, Canada or AquaBounty's salmon production in Albany, Indiana. AquaBounty is working with the FDA on the NEPA and ESA regulatory matters.

*On-going Regulatory Requirements*

In addition to the FDA approval of the NADA for AquAdvantage salmon, our operating sites in the United States and on Prince Edward Island, as well as those we plan to operate in the future, must be registered with, and periodically inspected by, the FDA as drug manufacturing establishments. Drug manufacturing establishments that supply FDA-regulated products for use in the United States must comply with the product's conditions for approval, whether located in the United States or in a foreign country. Each of our operating sites in Indiana and on Prince Edward Island is currently registered with the FDA, and the FDA has performed inspections and site visits at each of those facilities.

Going forward, we must continue to comply with FDA requirements not only for manufacturing but also for labeling, advertising, record keeping, and reporting to the FDA of adverse events and other information. We also need to comply with USDA disclosure requirements pertaining to bioengineered foods under the National Bioengineered Food Disclosure Law. Failure to comply with these requirements could subject us to administrative or judicial enforcement actions, including but not limited to, product seizures, injunctions, civil penalties, criminal prosecution, refusals to approve new products, or withdrawal of existing approvals, as well as increased product liability exposure.

Production of AquAdvantage salmon in the United States also requires compliance with environmental regulations and local site permitting statutes. In addition, every production site for AquAdvantage salmon in the United States requires approval by the FDA of both a Supplemental NADA and satisfaction of corresponding obligations under NEPA, as well as compliance with local permitting requirements for construction of grow-out facilities. We expect that we may incur significant costs to comply with these environmental and regulatory requirements, which could be a multi-year process to complete for each production site, though conducted in parallel with our construction timelines.

*Labeling and Disclosure Standard*

There have been surveys cited by various NGOs that indicate consumers are reluctant to purchase genetically engineered food and they would like to see labeling in order to avoid it. Many states reacted to this by enacting genetically engineered food labeling laws. Consequently, in response to the potential for state-by-state labeling laws, Congress passed the National Bioengineered Food Disclosure Law ("Disclosure Standard") in 2016, which directed the USDA to establish a national mandatory standard for disclosing foods that are or may be bioengineered. The Disclosure Standard requires food manufacturers, importers, and certain retailers to ensure bioengineered foods are appropriately disclosed. The Disclosure Standard came into effect on January 1, 2022, but we began complying in 2021 on a voluntary basis when our salmon began to be harvested and sold.

In conjunction with the bioengineered disclosure, we also have begun to educate consumers on the benefits of our GE Atlantic salmon versus conventional Atlantic salmon, including its 25% improved feed conversion (meaning less feed is needed to produce the same harvest), a lower carbon footprint due to local production, reduced impact on the environment, reduced exposure of the fish to environmental toxins due to use of land-based aquaculture systems, and reduced reliance on vaccines or antibiotics due to improved biosecurity.

In December 2019, the 2020 Appropriations Act was signed into law, which was reintroduced and passed in 2021, 2022 and 2023, which contained an amendment that requires any genetically engineered animal approved by FDA prior to the effective date of the Disclosure Standard shall include the words ''genetically engineered'' prior to the existing acceptable market name. While we believe that this labeling requirement is unnecessary and redundant to the requirement of the Disclosure Standard, we have and will continue to comply with all applicable laws.

Our compliance with these laws and regulations may be onerous and could increase our cost of doing business, impact our competitive position relative to our peers or otherwise have an adverse impact on our business, reputation, financial condition and operating results. For more information about government regulations applicable to our business, refer to "*Risk Factors*" in Item 1A.

**U.S. Market**

According to Kontali, in 2022, the supply of Atlantic salmon to the U.S. market reached a record 1.44 million pounds (652 thousand metric tons) with an aggregate market value of over $5.4 billion. The vast majority of the imported Atlantic salmon originated from Chile, Canada, and Norway. The Atlantic salmon farming industry in the United States contracted significantly beginning in the 1990s in the face of environmental concerns and lower costs of production from foreign sources, notably Chile. According to Kontali, a net of only 8 thousand pounds (4 thousand metric tons) of farmed Atlantic salmon was available in the United States in 2022, representing less than 1.0% of the total farmed Atlantic salmon supplied to the country.

**Supply of Atlantic salmon to U.S. market in thousands of metric tons (whole fish equivalent)**

| Area | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|---|
| Canada | 101 | 92 | 94 | 94 | 93 | 104 | 89 |
| Chile | 217 | 220 | 267 | 284 | 325 | 350 | 362 |
| Faroe Islands | 17 | 15 | 13 | 19 | 14 | 21 | 23 |
| Norway | 56 | 68 | 67 | 68 | 69 | 83 | 99 |
| United Kingdom | 13 | 18 | 16 | 20 | 12 | 17 | 9 |
| U.S. – own production, net | 8 | 13 | 7 | 8 | 9 | 6 | 4 |
| Other countries | 16 | 19 | 22 | 29 | 41 | 54 | 65 |
| Total | 427 | 446 | 487 | 523 | 562 | 635 | 652 |

Source: Kontali, Salmon World 2023

Despite intensive public consumer education campaigns promoting its health benefits, seafood consumption in the United States still lags behind other protein sources and trails consumption in overseas markets. According to the USDA, during the period from 2010 to 2020, the latest period of data available, annual seafood consumption in the United States ranged between 17 and 19 pounds per capita, significantly behind consumption of poultry (62 to 68 pounds), beef (51 to 55 pounds), and pork (43 to 47 pounds). In comparison, according to FAO, seafood consumption worldwide averaged 45 pounds per capita in the period from 2018 to 2020.

*Consumer Sentiment Regarding Genetically Engineered Fish*

Though Atlantic salmon is the second most consumed seafood in the United States, activist groups opposing genetically engineered foods have pressured a number of distributors, food service operations, retail food outlets and grocery chains to publicly state that they will not carry genetically engineered salmon.

However, we do not expect that this will have a significant impact on overall consumer demand and product placement in the marketplace generally, and in particular the distributor and wholesale marketplace. To date, we have seen large distributors and wholesalers not follow the pressure from activist groups, and we have sold our GE Atlantic salmon from our farms since commencing harvesting in May 2021. We believe that there will be sufficient demand from smaller retailers, distributors, wholesalers, and institutional seafood buyers to absorb our projected production. We believe that the FDA approval reinforces the message that our salmon is a safe and nutritious seafood product that is identical to conventional farmed Atlantic salmon.

Consumer sentiment towards genetically engineered foods is evolving. Based on market research that we commissioned, the top attributes for consumer selection of farm-raised salmon are availability, affordability, freshness, safety, and taste. According to the poll conducted, 53% of respondents had a first impression of genetically engineered food that was neutral to very positive; 60% were neutral to very likely to purchase genetically engineered products they buy regularly if labeled as such; 70% were neutral to very likely to purchase genetically engineered products they buy regularly if labeled with the USDA Bioengineered Disclosure Symbol; 81% were neutral to very positive to the AquaBounty and our GE Atlantic salmon story and product benefits; and 70% were likely to purchase and try our salmon at least once.

According to a study conducted by the Boyce Thompson Institute, which looked at the number and tone of over 100,000 online and print articles published in top-ranked media between 2018 and 2020 as well as 1.7 million social media interactions, the overall tone of the conversation on GE foods is "surprisingly positive, averaging 73% favorable if neutral and positive reporting are combined." The positive reporting became more favorable over the time period studied. Their findings suggest a drop in the importance of GE, with a more favorable and less polarized conversation across the globe.

*Sales Plan*

The salmon distribution system in the United States is complex and varied. Participants include fishermen, fish farmers, processors, importers, secondary processors, broadline distributors, specialty seafood distributors, brokers, traders, and many different kinds of retail and food service companies. Salmon distribution channels are evolving, with fewer and larger distributors handling an increasing share of total volume and an increasing share of salmon being sold directly by large fish-farming companies and large wild salmon processors to major retail and food service chains. Our GE Atlantic salmon is currently being sold into this distribution network with an initial focus on seafood distributors and wholesalers. This is due to our limited supply of fish, which necessitates our being selective in bringing on new customers. We expect that once our Ohio farm is in commercial operation, we will be able to expand our customer depth and breadth and increase our channel coverage.

As a commodity food item, the price of Atlantic salmon is variable based on the supply and demand for product weekly. We base our pricing on a published index by Urner Barry, which provides comprehensive market coverage across all major center-of-the-plate food proteins, taking into account differences for fish size and quality.

*Competition*

The global Atlantic salmon farming industry includes several very large companies with operations in each of the major producing countries. Consolidation has been evident in the past few years as producers attempt to gain competitive cost advantages while overcoming the regulatory challenges associated with developing new marine farm sites. Major market producers include the following companies: Mowi, SalMar, Aquachile, Leroy Seafood Group, Cermaq Group, Cooke Aquaculture, Bakkafrost and Australis Mar Seafood. It is estimated that these eight companies accounted for approximately 53% of the Atlantic salmon produced in 2022. Since salmon is primarily sold as a commodity in the United States, we compete against these well-established, sea-cage production companies.

In addition, new entrants to salmon production have emerged that use, or plan to use, land-based RAS facilities. Atlantic Sapphire is operating a facility in Florida, with stated plans to increase production to over 220 thousand metric tons. Other entrants include Nordic Aquafarms, with plans for facilities in Maine and California, and Whole Oceans with plans for a farm in Maine.

**Operations**

*Current Production*

We currently operate two salmon farms: a refurbished production grow-out farm in Indiana and a broodstock farm on Prince Edward Island, Canada. However, as noted above, in February 2024, we announced our plan to sell our Indiana farm operations. Our first harvests of conventional salmon in Indiana commenced in June 2020, and our first harvests of our GE Atlantic salmon commenced in June 2021 at both of our U.S. and Canadian farms. During 2022, we transitioned the grow-out operation at the Canadian farm to egg production. At December 31, 2023, we had a total grow-out production biomass of 412 metric tons.

*Impact of Inflation*

Recent increases in global inflation rates have impacted all areas of our business. We are experiencing higher costs for farming supplies, transportation costs, wage rates, and other direct operating expenses. Additionally, inflation has impacted the total project cost estimate for our Ohio farm, which has increased to a range of $485 million to $495 million. We expect inflation to continue to negatively impact our results of operations for at least the near-term.

*North America Plan*

Our business plan contemplates that we will complete the construction of a 10,000 metric ton production grow-out farm in Pioneer, Ohio. During 2021, we selected Pioneer, Ohio as the site location for our first large-scale commercial farm. Based on the engineering design that has been completed, we have estimated that the project, which includes a roughly 479,000 square foot facility, land, insurance and other ancillary items will cost between $485 million and $495 million. Site construction activities are currently paused, as we pursue additional financing, which is expected to include both equity and debt components. In October 2022, the Board of Directors of the Toledo-Lucas County Port Authority approved the issuance of up to $425 million in municipal bonds for our project, and they continue to support our efforts for the transaction.

The work that we have done to date on the design of the Ohio farm will serve as a template for future farm projects, though we will continue to incorporate the learnings from our current farm operations and our philosophy of continual improvement. The picture below shows a design rendering of the inside of the farm.

Source: AquaBounty

*Egg Production*

We have scaled-up our egg production capability at our Fortune and Rollo Bay hatcheries on Prince Edward Island and we can now produce over 10 million eyed eggs annually, which is more than our current internal demand.  As there is a shortage of supply of salmon eggs in the market, we have begun to sell our excess conventional (“non-GE”) salmon eggs and fry to other salmon farmers.  We also made the decision to transition the grow-out operation at our Canada farm to egg production in order to increase our egg production capacity over the next three to four years to 30 million eyed eggs annually, which would be sufficient to stock six 10,000 metric ton farms.

*International Plans*

While our primary focus is on North America, we are also considering international expansion, targeting those markets that are net salmon importers, unable to supply their domestic needs and where we believe we will have success in gaining further regulatory approvals and consumer acceptance.  Once approved in these locations, we may decide to commercialize through a combination of partnerships, joint ventures, and licensing arrangements.

**Growth Strategy**

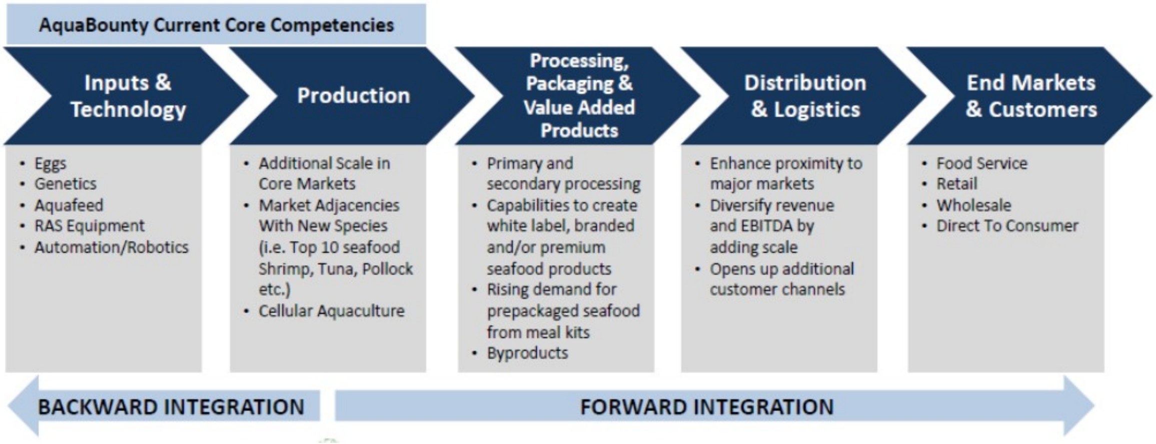
*Optimizing Technology and Innovating for the Future*

We are exploring the potential development of a range of additional products, including a second generation of our GE Atlantic salmon to help ensure 100% sterility, molecular sterility systems to provide an improved means of sterility for farmed fish, and improved methods for generating genetically engineered fish.

Our primary research and development operations are located in our owned hatcheries on Prince Edward Island. As of December 31, 2023, we employed 37 scientists and technicians to oversee our broodstock, as well as the lines of fish we maintain for research and development purposes. In addition, we contract some research activities to third parties.  In the future, we may enter into other partnerships and collaboration agreements to advance our research and development efforts.


*Vertical and horizontal integration*

We may have multiple opportunities to vertically integrate and strategically increase our value-added capabilities within the seafood industry. These capabilities can be obtained by building and developing in-house, forming partnerships, direct investment or through acquisition.




We could also seek to expand our production capabilities in adjacent markets, including:

- Diversify into additional high value species, such as shrimp, trout, or tuna.
- Evaluate markets for inputs and by-products such as animal feed, fish meal and fish oil.
- Acquire new production technologies, such as cellular aquaculture, in the rapidly growing bio-engineered food market.

**Human Capital Resources**

We believe in the positive impact that a team-based management structure delivers. We empower our people by placing decision making power at the team level; driven by those closest to the work. We provide training opportunities to our teams to continually improve their decision-making skills. Our recent development initiatives included introduction to lean and continuous improvement, leadership coaching skills, goal setting and coaching performance, creation of detailed work instructions and operations training based upon our standard operating procedures. We believe such initiatives ensure our team's alignment with our company's expectations, and when coupled with our confidence in our people's abilities, our team is positioned to succeed.

As of December 31, 2023, we had 104 team members, 82 of which were in our farm operations and 6 in research and technical support functions. As of December 31, 2023, we had 16 corporate team members who provided support to all of our operations and were responsible for the execution of all corporate functions, including executive, operational, finance, information technology, legal, sales and corporate communications. None of our team members are represented by a labor union, and we consider our employee relations to be good. We structure our compensation packages to compete for the best talent. Our compensation packages include a competitive base salary and health and wellness benefits, along with a retirement plan that includes a Company match.

**ESG Leadership**

We continue to believe Environmental, Social and Governance ("ESG") concerns are fundamental to our Purpose and Values and serve as a critical foundation as to how we operate our business. Our focus on ESG has been important in driving continuous improvement, building our culture and has resulted in delivering increased efficiencies and effectiveness throughout our operations. We believe taking ESG considerations into account in our decision-making process contributes to a disciplined approach to risk management.

Our ESG Committee, comprised of our executive management team with oversight by our Board of Directors, has worked cross functionally to develop our strategy, structure, process and the roadmap for the standards that are relevant to our business.

**Environmental**

*Energy Management*

Our current operating farms utilize energy from the grid, but we are acutely aware of the need to diversify into green energy sources for existing facilities, as well as incorporate alternative energy sources for future farming operations. We are evaluating various alternative energy sources.

*Greenhouse Gas Emissions*

We are collecting, monitoring, and managing data on a monthly basis that supports our Scope 1 and Scope 2 emission inventory.

*Water Management*

Fresh water provides critical support for our farming operations. We draw all the water supply for our farms from aquifers, via the underground wells located at or in the immediate proximity of our Indiana and Prince Edward Island facilities. We understand that our business is water-intensive and that we share this resource with other members of surrounding communities. Ensuring ample supply and quality of fresh water in order to comfortably operate our business without disadvantaging local communities is one of the most important factors we use in determining locations for our commercial operations.

*Waste Management*

Our facilities feature RAS technology, which utilizes fresh, clean water to grow our salmon from hatch to harvest. Water in the system is continuously recirculated and filtered, at a rate of 95+% per hour, meaning that less than 5% of each cycle is safely discharged back to the environment. The RAS system features biological filters to remove waste and return fresh water to maintain an optimal growing environment for our salmon. The resulting wastewater is cleaned before being moved to settling ponds. Solid waste is separated and removed from the system through the filtering process, and often recycled as fertilizer for local agricultural farmers.

**Social Impact**

*Consumer Welfare: Antibiotic Use in Animal Production*

Unlike wild caught or offshore sea-cage farmed salmon, our fish live in indoor tanks, which are designed to prevent them from escaping and reduce the risk of disease and contaminants. This allows the fish to be raised without the use of antibiotics and chemicals frequently used in sea-cage operations. We have developed and implemented Standard Operating Procedures ("SOPs") that govern the physical containment and every significant fish husbandry activity on our farms.

*Human Capital Management*

Recruiting, developing, engaging, and protecting our workforce is critical to executing our strategy and achieving business success. We work to equip our employees with critical skills and expand their contributions over time by providing a range of training and career development opportunities, including hands-on experiences via challenging work assignments and job rotations, coaching and mentoring opportunities, and training programs. To foster employee engagement and commitment, we follow a robust process to listen to employees, take action, and measure our progress with on-going employee conversations, transparent communications, and employee engagement surveys.

*Employee Health, Safety and Advancement*

We are committed to maintaining a safe and secure workplace for our employees. We set specific safety standards to identify and manage critical risks. We use global safety management systems and employee trainings to ensure consistent implementation of safety protocols and accurate measurement and tracking of incidents. To provide a safe and secure working environment for our employees, we prohibit workplace discrimination, and we do not tolerate abusive conduct or harassment. Our attention to the health and safety of our workforce extends to the workers and communities in our supply chain. We believe that respect for human rights is fundamental to our strategy and to our commitment to ethical business conduct.

**Governance and Business Ethics**

*Governance*

Our ESG strategy, risk management and reporting is overseen by our ESG Committee, with advice from external experts. The Committee is chaired by our President and includes all members of our Executive Leadership Team, including our: CEO; Chief Scientific Officer; Chief Operating Officer; General Counsel; Chief People Officer; Vice President Facilities & Continuous Improvement; and Chief Financial Officer. Our Board of Directors have oversight over our ESG Committee and initiatives.

*Diversity and Inclusion*

We are making gender, cultural, and racial diversity one of our key priorities for the next 10 years both at the Board of Directors level and within our workforce. We are focused on adding diverse, creative, talented, and seasoned personnel to our mid and upper management, as well as young, driven, collaborative and environmentally responsible team members to our entry-level positions.

*Ethical Innovation in Our Supply Chain*

With a goal of receiving the best equipment, feed, and other key inputs into our production process, our global supplier and vendor network spans across many states in the U.S. and several countries, such as Chile, Norway, Brazil, and Canada.
In selecting suppliers, we perform due diligence including review of sustainability and environmental impact information.

One of the advantages of our land-based farms is that we can locate them close to market consumption, which minimizes transportation costs and therefore, our carbon footprint. This allows us to minimize our transportation requirement to fulfill local and regional distribution as compared to farmed salmon that is imported into the U.S. by some of the largest farmed salmon producers (i.e., Chile, Norway, and Canada).

*Animal Welfare*

We raise salmon in natural, safe, and humane ways at every stage of life, from egg to harvest. We utilize technology and skilled human oversight to continually monitor and manage water quality and fish health. Our focus and targets are based on veterinary expertise and counsel, industry standards, and customer expectations for quality. We use industry-leading technology to help ensure fish are harvested humanely and with the least possible stress.

Animal Care and Welfare

We constantly monitor welfare conditions, such as: Crowding; Fish Transfer, Stunning and Bleeding; Harvesting; Grading; and Usage of Emerging Technologies.

As part of our welfare indicators, we are monitoring: Skin and Fin Conditions; Scale Losses; Mortality Rate; Reflex Behavior; Appetite – Hunger – Satiation; Gill Bleaching; Sex Maturation; Eye Damage and Cataracts; and Jaw Opercula and Spinal Deformities.

Animal & Feed Sourcing

We do not source animals. We are a 100% vertically integrated entity, with our own Broodstock and egg production that are used in our farms from hatch to harvest.

At this time, we are not growing our own feed stock or manufacturing feed for our GE salmon. We purchase all of our feed, which is BAP or GlobalGAP certified, for our operations from third parties.

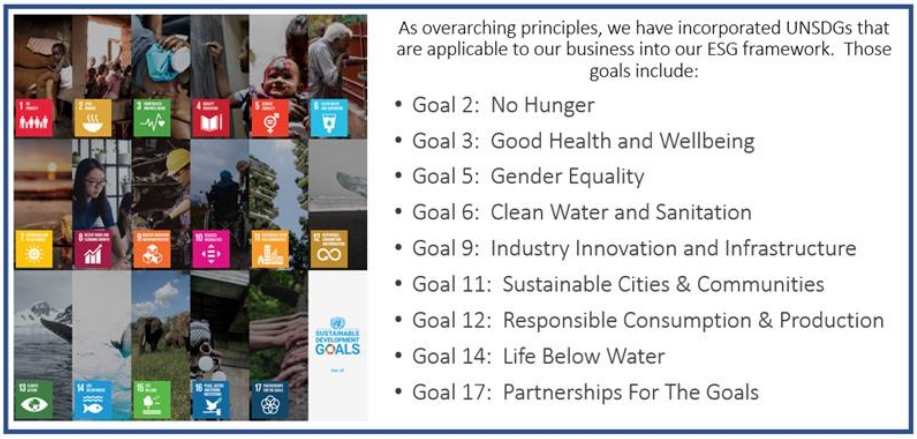
Feed is a critical input to growing healthy salmon. We evaluate suppliers that have high product safety and ethical standards, consistent with what we set for ourselves.

*Communities*

We believe in supporting local communities in which we operate.  We strive to create jobs and contribute to the economic development of these communities.  Whenever feasible, we contract with local businesses for the sources of inputs utilized in our farm operations.

**United Nations Sustainable Development Goals**

Our corporate Purpose and operations are aligned with a number of the United Nations Sustainable Development Goals ("UNSDGs").  We are committed to pursuing solutions to help end hunger, achieve food security and improve nutrition, while also promoting sustainable land-based aquaculture to provide a resilient and domestic supply of fresh salmon. We continually transform the aquaculture segment through our research, innovation and genetics-based technology. Our management makes conscious decisions to locate our farms close to key consumption markets, providing greater access to all consumers including underserved communities. We work hard to supply populations with high-quality, healthy, affordable and nutritious salmon that is cultivated with the well-being of the planet in mind and provides a much needed relief for our oceans and rivers. Our plans are to bring our technology and expertise to other countries, including developing regions.



## Item 1A. Risk Factors

The following are certain risk factors that could affect our business, financial condition, and results of operations. You should carefully consider the risks described below, together with the other information contained in this Annual Report on Form 10-K, including our consolidated financial statements and the related notes. We cannot assure you that any of the events discussed in the risk factors below will not occur. These risks could have a material and adverse impact on our business, results of operations, financial condition, or prospects. If that were to happen, the trading price of our common stock could decline, and you could lose all or part of your investment.

This Annual Report on Form 10-K also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks faced by us described below and elsewhere in this Annual Report on Form 10-K. See “Cautionary Note Regarding Forward-Looking Statements” for information relating to these forward-looking statements.

***Risks Relating to our Business and Future Plans***

**We have a history of net losses and will likely incur future losses and may not achieve or maintain profitability.**

In the period from incorporation to December 31, 2023, we have incurred cumulative net losses of approximately $221 million. These losses reflect our personnel, research and development, production and marketing costs. Our ability to realize revenues and the timing thereof are not certain, and achieving revenues does not assure that we will become profitable. We anticipate incurring additional losses until such time that we can generate significant increases to our revenues, and/or reduce our operating costs and losses. The size of our future net losses will depend, in part, on the rate of future expenditures and our ability to significantly grow our business and increase our revenues. We expect to continue to incur substantial and increased expenses as we grow our business and with our operations as a publicly traded company.

**There is substantial doubt about our ability to continue as a going concern.**

Since inception, we have incurred cumulative net losses and negative cash flows from operations and expect that this will continue for the foreseeable future. As of December 31, 2023, we had $9.2 million in cash, cash equivalents, and restricted cash.

Our ability to continue as a going concern is dependent upon our ability to raise additional capital, and there can be no assurance that such capital will be available in sufficient amounts, on a timely basis, on acceptable terms, or at all. This raises substantial doubt about our ability to continue as a going concern within one year after the date hereof. The accompanying financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business and do not include any adjustments that might result from the outcome of this uncertainty. Until such time as we reach profitability, we will require additional financing to fund our operations and execute our business plan. If we cannot continue as a going concern, our stockholders would likely lose most or all of their investment in us.

**Our current business plans include the need for substantial additional capital, and without it, we may not be able to implement our strategy as planned or at all.**

Our strategy depends on our ability to develop and construct additional farms, including our partially constructed Ohio farm. Its construction, and others in the future, are contingent on our ability to raise capital, without which, we may be unable to construct such facilities as planned or at all.

We may not be able to obtain the financing necessary to complete construction of our proposed facilities. We do not have the financial resources required to fully finance the construction of the Ohio farm. We will seek to raise part of these necessary funds through debt financing. Recent increases in interest rates have increased the borrowing costs for this financing, and any further increases before the financing is complete could further increase such costs. Volatility and/or declines in equity markets in general, and for our securities, may cause equity financing to be unavailable on acceptable terms or at all. We may also need further funding if there are delays in construction or increased construction costs at our construction site in Ohio. We may finance unanticipated construction costs by issuing equity securities or debt. The delay or failure of regulatory bodies to approve our construction plans, disruption and volatility in the financial markets, tighter credit markets and a downturn in the seafood market may negatively impact our ability to obtain financing. We may not have access to the required funding, or funding may not be available to us on acceptable terms.

We estimate that the total project cost for the Ohio farm, including construction, land, insurance and ancillary costs will be in the range of $485 million to $495 million, substantially above our previously disclosed estimate, although this figure could continue to change as we finalize the design, finalize bids from contractors and continue with construction. For example, at least partially due to recent inflationary pressures, subcontractors for certain goods and services at our Ohio farm have submitted bids above the levels that we expected. As a result of these increases, and increased interest rates, we have raised our estimate for the total cost for the project, and we increased the amount of proposed debt financing.

We have encountered cost increases in the expected construction cost of the Ohio farm and may encounter further unanticipated difficulties and cost overruns in constructing this farm and other future farms. Preparing cost and timing estimates for complex RAS farms is inherently difficult and subject to change based on a number of factors that we have experienced to date and may experience in the future, including design changes, increasing inflationary pressure on costs of materials and labor, the impact of health epidemics, such as COVID-19, construction delays, dependence on contractors, the impact of increasing interest rates on financing costs, customer requirements and unexpected complications. As a result, we may encounter unanticipated difficulties and the construction and development of our proposed farms may be more costly or time-consuming than we anticipate.

These recent increases in the construction cost estimate have caused us to put construction on pause until we can evaluate the completion cost estimate and our financing strategy. There can be no guarantee that our attempts will be successful, and macro-economic conditions could worsen, which could result in further cost increases and further financing and construction-related delays.

**There can be no assurance that additional funds will be available on a timely basis, on acceptable terms, or at all, or that such funds, if raised, would be sufficient to enable us to continue to implement our business strategy.**

We require new financing to provide liquidity for working capital and to fund the construction of our farm in Pioneer, Ohio. To meet this need, we have engaged an investment bank to pursue a range of funding and strategic alternatives, including the recently announced sale process for our Indiana farm, potential debt financing secured by our unencumbered assets and potential joint venture partnerships or other strategic transactions. There is no guarantee that additional funds will be available on a timely basis, on acceptable terms, or at all, or that such funds, if raised, would be sufficient to enable us to continue to implement our business strategy. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interests of holders of our common stock will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of holders of our common stock. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures, or declaring dividends. If we raise additional funds through government or other third-party funding, marketing and distribution arrangements or other collaborations, strategic alliances, or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs, or product candidates or to grant licenses on terms that may not be favorable to us. In addition, we may not be able to sell our Indiana farm for the price that we expect or on the timeline that we expect or at all.  Furthermore, if we sell the Indiana farm for a price that is less than the book value of its assets, we will incur a loss on the sale.

**If we lose key personnel, including key management personnel, or are unable to attract and retain additional personnel, it could delay our commercialization plans or harm our research and development efforts, and we may be unable to sell or develop our own products.**

Our success depends substantially on the efforts and abilities of our officers and other key employees. The loss of any key members of our management, or the failure to attract or retain other key employees who possess the requisite expertise for the conduct of our business, could prevent us from developing and commercializing our products and executing on our business strategy. We may not be able to attract or retain qualified employees in the future due to the intense competition for qualified personnel among aquaculture, biotechnology, and other technology-based businesses, or due to the unavailability of personnel with the particular qualifications or experience necessary for our business. For production positions, effective training will be needed for new hires due to the overall lack of industry experience in land-based aquaculture in North America. If we are not able to attract, train, and retain the necessary personnel to accomplish our business objectives, we may experience staffing constraints that could adversely affect our ability to meet the demands of our customers in a timely fashion, adequately staff existing or new production facilities, or support our internal research and development programs. In particular, our production facilities require individuals experienced or trained in RAS-based aquaculture, and our product development programs are dependent on our ability to attract and retain highly skilled scientists. Competition for experienced production staff, scientists, and other technical personnel from numerous companies and academic and other research institutions may limit our ability to attract and retain such personnel on acceptable terms.

**If we lose key vendors, including those necessary to complete the construction of our Ohio farm, or are unable to engage additional vendors, it could delay our construction or commercialization plans.**

The completion of the construction of our Ohio farm depends on our construction and equipment vendors' willingness to continue to support the project once we are ready to resume construction. Due to the rising project cost estimate, we paused construction activities in July 2023, while we pursue additional financing. There can be no guarantee that our vendors will be available or willing to reengage construction activities on the project when we have completed our financing and are ready to resume construction. If our vendors are not ready to resume construction activities, or if we need to engage new vendors, it could delay our construction and commercialization plans.

**We require approvals and permits to construct and operate our farms, and any delay or denial of those approvals or permits could potentially delay or halt certain operations and commercial efforts.**

We may not be able to obtain the approvals and permits that will be necessary in order to construct and operate our facilities as planned. We will need to obtain a number of required permits in connection with the hydrology, construction and operation of our farms, which is often a time-consuming process. We will also need to obtain FDA approval to grow our GE Atlantic salmon in the facility. Delays or conditions imposed in obtaining the required approvals and permits for our farms, have delayed and may further delay our expected construction completion, commercial stocking and first sale dates and/or lead to further cost increases. If we are unable to obtain the required approvals and permits for our farms, we will not be able to construct the farms. In addition, federal, state and local governmental requirements could substantially increase our costs, which could materially harm our results of operations and financial condition.

**Increases in interest rates have increased our expected borrowing costs and may also affect our ability to obtain working capital through borrowings, such as bank credit lines and public or private sales of debt securities.**

We will seek to raise part of the funding necessary for construction of our Ohio farm, and other future farms, through debt financing. Increases in interest rates will increase the cost of our indebtedness for construction financing and may also affect our ability to obtain working capital through borrowings, such as bank credit lines and public or private sales of debt securities. This may result in lower liquidity, increased expense and difficulty in financing our expansion plans, reduced working capital and other adverse impacts on our business.

**Delays and defects may prevent the commencement of farm operations.**

Delays and defects may cause our costs to increase to a level that would make one or more of our farms too expensive to construct or unprofitable. We may suffer significant delays or cost overruns at our farms that could prevent us from commencing operations as expected as a result of various factors. These factors include shortages of workers or materials, construction and equipment cost escalation, transportation constraints, adverse weather, unforeseen difficulties or labor issues, or changes in political administrations at the federal, state or local levels that result in policy change towards genetically engineered foods in general or our products and farms in particular. Defects in materials or workmanship could also delay the commencement of operations of our planned farms, increase production costs or negatively affect the quality of our products. Due to these or other unforeseen factors, we may not be able to proceed with the construction or operation of our farms in a timely manner or at all.

**Rising inflation rates could negatively impact our revenues and profitability.**

Rising inflation rates could negatively impact our revenues and profitability if increases in the prices of our products or a decrease in consumer spending results in lower sales. In addition, if our costs increase and we are not able to pass along these price increases to our customers, our net income would be adversely affected, and the adverse impact may be material. Inflation rates, particularly in the United States, have increased to levels not seen in years. Increased inflation may result in increased construction costs for new farms, increased operating costs (including our labor costs), reduced liquidity, and limitations on our ability to access credit or otherwise raise debt and equity capital. Increases in interest rates, especially if coupled with reduced government spending and volatility in financial markets, may have the effect of further increasing economic uncertainty and heightening these risks.

**The financing of our Ohio farm through the placement of municipal bonds may require restrictive debt covenants that could limit our control over the farm's operation and restrict our ability to utilize a portion of any cash that the farm generates.**

We anticipate using both equity and debt to finance the construction and initial working capital for our Ohio farm. Debt financing will likely contain certain customary restrictive covenants that require us to maintain certain operating ratios and may restrict our use of any cash that is generated by the farm. The amount of debt used to finance the project may be significant and may require the use of a trustee to oversee the project funds and to monitor the project's performance and adherence to any restrictive covenants. Failure to meet the restrictive covenants over a period of time could result in more oversight by the trustee and a loss of some of our control over the operation, or in the extreme by the trustee stepping in to manage the farm's operation.

To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interests of holders of our common stock will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of holders of our common stock.

Our term loan agreement with First Farmers Bank and Trust in the amount of $4 million contains certain customary restrictive covenants that limit our ability, including without limitation, to incur additional indebtedness and liens, merge with other companies or consummate certain changes of control, acquire other companies, engage in new lines of business and make certain investments, as well as financial covenants requiring us to maintain certain ratios with respect to our operations. Our ability to comply with these covenants may be affected by events beyond our control, and we may not be able to meet those covenants. A breach of any of these covenants could result in a default under the term loan agreement, which could cause all of the outstanding indebtedness under our term loan to become immediately due and payable. In that event, we would be required to disclose the default in our public filings, which could have an adverse effect on the price of our shares of common stock. These covenants could also limit our ability to seek capital through the incurrence of new indebtedness or, if we are unable to meet our obligations, require us to repay any outstanding amounts with sources of capital we may otherwise use to fund our business, operations and strategy.

**We may encounter difficulties managing our growth, which could adversely affect our business.**

We could face a period of rapid growth following expansion of our production capability, which may place significant pressure on our management, sales, operational, and financial resources. The execution of our business plan and our future success will depend, in part, on our ability to manage current and planned expansion and on our ability to continue to implement and improve our operational management. Any failure to manage the planned growth may have a significant adverse effect on our business, financial condition, trading performance, and prospects.

**We may pursue strategic acquisitions, investments or mergers that could have an adverse impact on our business if they are unsuccessful.**

If appropriate opportunities become available, we may acquire, invest in or merge with businesses, assets, technologies, or products to enhance our business in the future. In connection with any future acquisitions, investments or mergers, we could:

- issue additional equity securities, which would dilute the ownership interest and voting power of our current stockholders;
- incur substantial debt to fund the acquisitions; or
- assume significant liabilities.

Acquisitions, investments or mergers involve numerous risks, including:

- difficulties integrating the purchased operations, technologies, or products;
- unanticipated costs and other liabilities;
- diversion of management's attention from our core business;
- adverse effects on existing business relationships with current and/or prospective customers and/or suppliers;
- risks associated with entering markets in which we have no or limited prior experience; and
- potential loss of key employees.

We do not have extensive experience in managing the integration process, and we may not be able to successfully integrate any businesses, assets, products, technologies, or personnel that we might acquire in the future without a significant expenditure of operating, financial, and management resources. The integration process could divert management time from focusing on operating our business, result in a decline in employee morale, or cause retention issues to arise from changes in compensation, reporting relationships, future prospects, or the direction of the business. Certain transactions may require us to record goodwill and non-amortizable intangible assets that will be subject to impairment testing on a regular basis and potential periodic impairment charges, incur amortization expenses related to certain intangible assets, and incur large and immediate write-offs and restructuring and other related expenses, all of which could harm our operating results and financial condition. In addition, we may acquire companies that have insufficient internal financial controls, which could impair our ability to integrate the acquired company and adversely impact our financial reporting. If we fail in our integration efforts with respect to any of our acquisitions and are unable to efficiently operate as a combined organization, our business and financial condition may be adversely affected.

**High customer concentration exposes us to various risks faced by our major customers and may subject us to significant fluctuations or declines in revenues.**

A limited number of our major customers have contributed a significant portion of our revenues in the past. Our revenue from the top three largest customers accounted for approximately 76% and 68% of our total revenues in the fiscal years ended December 31, 2023 and 2022, respectively. Although we continually seek to diversify our customer base, we cannot assure you that the proportion of the revenue contribution from these customers to our total revenues will decrease in the near future. Dependence on a limited number of major customers will expose us to the risks of substantial losses and may increase our accounts receivable and extend its turnover days if any of them reduces or ceases business with us. Any one of the following events, among others, may cause material fluctuations or declines in our revenues and have a material and adverse effect on our business, financial condition, results of operations and prospects:

- an overall decline in the business of one or more of our significant customers;
- the decision by one or more of our significant customers to switch to our competitors;
- the reduction in the prices for our products agreed by one or more of our significant customers; or
- the failure or inability of any of our significant customers to make timely payment to us.

***Risks Relating to the Operation of Our Farms***

**Ethical, legal, and social concerns about genetically engineered products could limit or prevent the use of our products and limit our revenues.**

Our technologies include the use of genetic engineering. Public perception about the safety and environmental hazards of, and ethical concerns over, genetically engineered products could influence public acceptance of our technologies and products. Activist groups opposing the genetic engineering of organisms have in the past pressured a number of retail food outlets and grocery chains to publicly state that they will not carry genetically engineered Atlantic salmon, and they could file lawsuits to prevent the production and sale of our products. If we are not able to overcome the ethical, legal, and social concerns relating to genetic engineering, products using our technologies may not be accepted in the marketplace, and demand for our products could fall short of what we expect. These concerns could also result in increased expenses, regulatory scrutiny, delays, or other impediments to implementation of our business plan.

The subject of genetically engineered products has received negative publicity, which has aroused public debate. This adverse publicity could lead to lawsuits against the production, distribution, and sale of genetically engineered products; greater regulation of those products; and trade restrictions on their importation. Further, there is a concern that products produced using our technologies could be perceived to cause adverse events, which could also lead to negative publicity.

**We may have limited success in gaining consumer acceptance of our products.**

There is an active and vocal group of opponents to genetically engineered products who wish to ban or restrict the technology and who, at a minimum, hope to sway consumer perceptions and acceptance of this technology. Their efforts include regulatory legal challenges and labeling campaigns for genetically engineered products, as well as application of pressure to multiple channels of distribution including, but not limited to distributors, food service operators, and consumer retail outlets seeking a commitment not to carry genetically engineered Atlantic salmon. We may not be able to overcome the negative consumer perceptions that these organizations have instilled against our products.

**Our business is affected by the quality and quantity of the salmon that we harvest.**

We sell our products in a highly competitive market. Our ability to successfully sell our products, and the price that we receive, is highly dependent on the quality of the salmon that we produce. A number of factors can negatively affect the quality of the salmon that we sell, including the quality of our broodstock, water conditions in our farms, the food and additives consumed by our fish, population levels in the tanks, and the amount of time that it takes to bring a fish to harvest, including transportation and processing. We have experience operating RAS facilities and raising salmon, and while we actively monitor these factors using rigorous standard operating procedures, we cannot always ensure optimal growing conditions. Although fish grown in RAS production systems are not subject to the disease and parasite issues that can affect salmon grown in ocean pens, there is the potential for organisms that are ubiquitous to freshwater environments to become pathogenic if the fish are subjected to stressful conditions or there is an issue with biomass management.

We maintain high standards for the quality of our product and if we determine that a harvest has not met such standards, we may be required to reduce our inventory and write down the value of the harvest to reflect net realizable value. Sub-optimal conditions could lead to smaller harvests and or lower quality fish. Conversely, if we experience better than expected growth rates, we may not be able to process and bring our fish to market in a timely manner, which may result in overcrowding that can cause negative health impacts and/or require culling our fish population.

Further, if our salmon is perceived by the market to be of lower quality than other available sources of salmon or other fish, we may experience reduced demand for our products and may not be able to sell our products at the prices that we expect or at all. As we continue to expand our operations and build new farms, we potentially may face additional challenges with maintaining the quality of our products. We cannot guarantee that we will not face quality issues in the future, any of which could cause damage to our reputation, and a loss of consumer confidence in our products, which could have a material adverse effect on our business results and the value of our brands.

**We may experience a significant fish mortality event in our broodstock or our production facilities that could impact the price of our common stock.**

In recent periods, other companies in the land-based aquaculture industry have experienced fish mortality events that resulted in a decline in their share price. It is possible that our operations could experience a significant fish mortality event due to, among other causes, disease, pathogens, human error, intentional malfeasance, a weather event, loss of access to electricity or water, or damage to our farms, or other factors beyond our control. If we were to have a significant fish mortality event, this could lead to a reduction in production harvests, loss of broodstock, loss of revenue, increased production costs, and public relations damage, the result of which could impact the price of our common stock.

**The loss of our GE Atlantic salmon broodstock could result in the loss of our commercial technology.**

Our GE Atlantic salmon, or more specifically the breeding population of live fish, or broodstock, themselves, is a product of our combined intellectual property, which includes our trade secrets related to creating and maintaining the broodstock. Destruction of our salmon broodstock by whatever means could result in a significant delay to our operations while the broodstock was replenished. Live animals are subject to disease that may, in some cases, prevent or cause delay in the export of eggs to our farms. Disease organisms may be present but undetected and transferred inadvertently. In addition, our broodstock is kept at a limited number of facilities, and damage to or failure of critical systems at any one of those facilities could lead to the loss of a substantial percentage of our broodstock. Such events may cause loss of revenue, increased costs, or both. Though the broodstock could be reinstated, in whole or in part, using our technology and stored breeding reserves, the cost and time required to do so could adversely affect our operating results and financial condition.

**Atlantic salmon farming is subject to disease outbreaks, which can increase the cost of production and/or reduce production harvests.**

Salmon farming systems, particularly conventional, open sea-cage systems, are vulnerable to disease introduction and transmission, primarily from the marine environment or adjacent culture systems. The economic impact of disease to these production systems can be significant, as farmers must incur the cost of preventative measures, such as vaccines and antibiotics, and then, if the fish become infected, the cost of lost or reduced harvests.

Although we produce and grow our GE Atlantic salmon in land-based, closed containment facilities, we are still at risk for potential disease outbreaks. We have implemented biosecurity measures in our facilities intended to prevent or mitigate disease impact, but there can be no assurance that any measures will be 100% effective.

**A shutdown, material damage to any of our farms, or lack of availability of power, fuel, oxygen, eggs, water, or other key components needed for our operations, could result in our prematurely harvesting fish, a loss of a material percentage of our fish in production, a delay in our commercialization plans, and a material adverse effect on our operations, business results, reputation, and the value of our brands.**

At present, we have farms in Albany, Indiana, and Prince Edward Island, Canada. As an interruption in the power, fuel, oxygen supply, water quality systems, or other critical infrastructure of an aquaculture facility for more than a short period of time can lead to the loss of a large number of fish, any shutdown of or damage to either of our farms—for example, due to weather or other natural disaster, shortages of key components to our operations due to a pandemic, reduction in water supply, contamination of our aquifers, interruption in services beyond our backup capacity, or human interference—could require us to prematurely harvest some or all of the fish at that farm or could result in a loss of a material percentage of our fish in production. In addition, any transportation-related or other accidents that may result in a spill of hazardous materials near our farms, which may contaminate the land and/or groundwater, may result in a loss of a material percentage of our fish and other material adverse effects on our operations.

We also are dependent on egg availability and being able to ship genetically engineered Atlantic salmon eggs from Canada to the United States for production. If we had a disruption in our ability to produce our eggs in Canada or ship our eggs to the United States, due to border closings or some other event that would prevent us from importing the eggs to the United States, we would not be able to continue to stock our Indiana Farm with genetically engineered Atlantic salmon eggs. We cannot guarantee that any of these disruptions might not occur in the future, any of which could cause loss of salmon to sell, damage to our reputation, loss of consumer confidence in our products and company, and lost revenues, all of which could have a material adverse effect on our business results and the value of our brands.

**The successful development of our business depends on our ability to efficiently and cost-effectively produce and sell salmon at large commercial scale.**

Although we have over two decades of experience in successfully raising Atlantic salmon in land-based systems, we have only begun to produce them at commercial scale. Our business plans depend on our ability to increase our production capacity through the development of larger farms. We have limited experience constructing, ramping up, and managing such large, commercial-scale facilities, and we may not have anticipated all of the factors or costs that could affect our production, harvest, sale, and delivery of salmon at such a scale. For example, our salmon may not perform as expected when raised at very large commercial scale, we may encounter operational challenges for which we are unable to identify a workable solution, control deficiencies may surface, our vendors may experience capacity constraints, or our production cost and timeline projections may prove to be inaccurate. Any of these could decrease process efficiency, create delays, and increase our costs. We are also subject to volatility in market demand and prices, such as the disruption to the salmon market and the resulting reduction in market prices for salmon that occurred during the COVID-19 pandemic.

In addition, competitive pressures, customer volatility and the possible inability to secure established and ongoing customer partnerships and contracts, may result in a lack of buyers for our fish. Customers of our fish may not wish to follow our terms and conditions of sale, potentially resulting in a violation of labeling or disclosure laws, improper food handling, nonpayment for product, and similar issues. The competitive landscape for salmon may create challenges in securing competitive pricing for our salmon to reach our competitive goals. In addition, it is possible that we may not be able to service our customers to meet their expectations regarding fish quality, ongoing harvest supply availability, order processing fill rate, on time or correct deliveries, potential issues with third-party processors, and other factors, which could impact our relationships with customers, our reputation, and our business results.

**If our products become contaminated, we may be subject to product liability claims and product recalls, which could adversely affect our financial results and damage our reputation.**

Food safety issues (both actual and perceived) may have a negative impact on, the reputation of and demand for, our products. In addition to the need to comply with relevant food safety regulations, it is of critical importance that our products are safe and perceived as safe and healthy in all relevant markets.

Our products may be subject to contamination by foreign materials or disease-producing organisms or pathogens, such as Listeria monocytogenes, Salmonella and E. coli. These organisms and pathogens are found generally in the environment and there is a risk that one or more, as a result of food processing, could be present in our products. These organisms and pathogens also can be introduced to our products as a result of improper handling at the further-processing, foodservice or consumer level. These risks may be controlled, but may not be eliminated, by adherence to good manufacturing practices and finished product testing. We have little, if any, control over handling procedures once our products have been shipped for distribution. Even an inadvertent shipment of contaminated products may be a violation of law and may lead to increased risk of exposure to product liability claims, increased scrutiny and penalties, including but not limited to, injunctive relief and plant closings, by federal and state regulatory agencies, and adverse publicity, which could exacerbate the associated negative consumer reaction. Any of these occurrences may have an adverse effect on our financial results and the value of our brands.

In addition, we may be required to recall some of our products if they spoil, become contaminated, are tampered with or are mislabeled. A widespread product recall could result in significant losses due to the costs of a recall, the destruction of product inventory and lost sales due to the unavailability of product for a period of time. Such a product recall also could result in adverse publicity, damage to our reputation, and a loss of consumer confidence in our products, which could have a material adverse effect on our business results and the value of our brands.

**Security breaches, cyber-attacks and other disruptions could compromise our information, expose us to fraud or liability, or interrupt our operations, which would cause our business and reputation to suffer.**

In the ordinary course of our business, we use third-party, cloud-based servers and networks to store sensitive data, including our proprietary business and financial information; general business information regarding our customers, suppliers, and business partners; and personally identifiable information of our employees; and to operate our farm equipment. The security of our network and the storage and maintenance of sensitive information is critical to our operations. Despite our security measures, our and our third-party providers' information technology and infrastructure are subject and vulnerable to cyber-attacks by hackers, such as social engineering/phishing, malware (including ransomware), malfeasance by insiders, human or technological error, and as a result of bugs, misconfigurations or exploited vulnerabilities in software or hardware. A breach of our or our third-parties' security could compromise our and/or their networks, and the information stored could be accessed, manipulated, publicly disclosed, lost, or stolen. Any such access, manipulation, disclosure, or loss of information could result in errors in our records, fraudulent use of our financial information or theft of assets, legal claims or proceedings (such as class actions), regulatory investigations and enforcement actions, liability under laws that protect the privacy of personal information (including fines and penalties), theft of our intellectual property, damage to our reputation and/or significant system restoration or remediation and future compliance costs. In addition, our systems could be the subject of denial of service or other interference, which could disrupt our operations and commercial transactions. There can also be no assurance that our cybersecurity risk management program and processes, including our policies, controls or procedures, will be fully implemented, complied with or effective in protecting our systems and information.

In addition, with the continued automation of our farm operations, there is the possibility of exposure to critical assets or sensitive information loss stemming from a cyber-attack on communication interfaces with third-party providers, which could adversely impact our farm operations. Any of the foregoing could adversely affect our business, revenues, and competitive position.

**We remain dependent on third parties for the processing, distribution, and sale of our products.**

At present, we rely on third parties to process our fish, deliver them to seafood vendors, and ultimately sell them to consumers. While we carefully select processors or other intermediaries in the supply chain, any failure on their part to maintain quality standards or proper food handling processes could subject us to product liability claims, product recalls, increased scrutiny from regulators, and loss of consumer confidence in the safety and quality of our products. Seafood vendors may reject our products due to their particular product or volume requirements, extract pricing concessions that reduce our margins, or fail to adequately promote and sell our products. Our reliance on third parties could therefore result in a reduction in our revenues, an increase in our costs, delays in commercialization, additional regulatory requirements, or negative public opinion that could impact future sales and growth.

**We may be required to write-down the value of our inventory if its net realizable value is less than its accumulated cost at the end of a reporting period.**

Our fish in process inventory is a biological asset and is stated on our balance sheet at the lower of cost or net realizable value, where net realizable value is calculated as the estimated market price less the estimated costs of processing, packaging and transportation. Any adjustments to the carrying value of inventory are reported as a component of production costs on our income statement. Such adjustments may be material in any given period and could adversely affect our financial condition and results of operations. Until such time as our net realizable value is consistently in excess of inventory costs, our inventory may be subject to significant market value risk.

***Risks Relating to the Industry and Macro Environment***

**Business, political, or economic disruptions or global health concerns could seriously harm our current or planned business and increase our costs and expenses.**

Broad-based business or economic disruptions, political instability, or global health concerns could adversely affect our current or planned production, sale, distribution, research and development, and expansion. For example, the COVID-19 pandemic and its related adverse public health developments, including orders to shelter-in-place, travel restrictions, and mandated business closures adversely affected workforces, organizations, customers, economies, and financial markets globally, leading to an economic downturn and increased market volatility. It also disrupted the normal operations of many businesses, including ours.

Global health concerns like the COVID-19 pandemic could in themselves result in social, economic, and labor instability in the countries in which we or the third parties with whom we engage operate. The COVID-19 pandemic and government measures taken in response had a significant impact, both direct and indirect, on businesses and commerce, as worker shortages occurred. These impacts included the shortage of packaging workers and transportation suppliers that we experienced, leading to slower and more expensive harvests and increased culling activity; supply chain disruptions; facility and production suspensions; and demand for certain goods and services, such as medical services and supplies spiked, while demand for other goods and services, including salmon in the institutional sales chain that includes restaurants fell, with a resulting drop in the prices for those goods and services. We were impacted by the reduction in food service demand for salmon due to the pandemic in the form of significantly lower than expected sales and a reduction in the value of our inventory.

We cannot predict the scope and severity of business, political or economic disruptions or global health concerns. If we or any of the third parties with whom we engage, including suppliers, distributors, service providers, regulators, and overseas business partners, experience shutdowns or other disruptions again in the future, our ability to conduct our business in the manner and on the timelines presently planned could be materially and negatively impacted, our anticipated revenues could decrease, and our costs and expenses could continue to rise as a result of our efforts to address such disruptions.

**Adverse developments affecting the financial services industry, including events or concerns involving liquidity, defaults or non-performance by financial institutions or transactional counterparties, could adversely affect our business, financial condition or results of operations.**

Events involving limited liquidity, defaults, non-performance or other adverse developments that affect financial institutions, transactional counterparties or other companies in the financial services industry or the financial services industry generally, or concerns or rumors about any events of these kinds or other similar risks, have in the past and may in the future lead to market-wide liquidity problems. Most recently, on March 10, 2023, Silicon Valley Bank, now a division of the First Citizens Bank, was closed by the California Department of Financial Protection and Innovation, which appointed the Federal Deposit Insurance Corporation ("FDIC") as receiver. Similarly, on March 8, 2023, Silvergate Capital Corp. announced its decision to voluntarily liquidate its assets and wind down its operations. Our access to funding sources and other credit arrangements in amounts adequate to finance or capitalize our current and projected future business operations could be significantly impaired by factors that affect us, the financial services industry or economy in general. These factors could include, among others, events such as liquidity constraints or failures, the ability to perform obligations under various types of financial, credit or liquidity agreements or arrangements, disruptions or instability in the financial services industry or financial markets, or concerns or negative expectations about the prospects for companies in the financial services industry.

In addition, investor concerns regarding the U.S. or international financial systems could result in less favorable commercial financing terms, including higher interest rates or costs and tighter financial and operating covenants, or systemic limitations on access to credit and liquidity sources, thereby making it more difficult for us to acquire financing on acceptable terms or at all. Any decline in available funding or access to our cash and liquidity resources could, among other risks, adversely impact our ability to meet our operating expenses or financial obligations or fulfill our other obligations, result in breaches of our contractual obligations or result in violations of federal or state wage and hour laws. Any of these impacts, or any other impacts resulting from the factors described above or other related or similar factors, could have material adverse impacts on our liquidity and our business, financial condition or results of operations.

We currently have cash and cash equivalents deposited in Citizens Bank, N.A. representing 85% of our total amounts and significantly in excess of federally insured levels. If any of the financial institutions in which we have deposited funds ultimately fails, we may lose our uninsured deposits at such financial institutions, and/or we may be required to move our accounts to another financial institution, which could cause operational difficulties, such as delays in making payments to our partners and employees, which could have an adverse effect on our business and financial condition.

**Industry volatility can affect our earnings, especially due to fluctuations in commodity prices of salmon.**

Profitability in the salmon industry is materially affected by the commodity price of salmon, and to a lesser extent, alternative proteins. These prices are determined by supply and demand factors and can fluctuate by season. For example, the COVID-19 pandemic impacted market demand for salmon, which resulted in market prices falling by up to 40% for certain product presentations. Conversely, given the long grow-out cycle for raising salmon, disruptions in production can depress market supply and result in price increases.

**Atlantic salmon farming is restricted in certain states.**

Concerns regarding the possible environmental impact from our GE Atlantic salmon have led some states to impose legislative and regulatory restrictions or bans on its farming. In addition, some states, such as Alaska, have enacted restrictions on Atlantic salmon farming generally. While we currently believe that many states offer excellent potential sites for our salmon production farms, if additional states adopt similar restrictions, or otherwise prohibit the rearing of our GE Atlantic salmon in those states, the number of potential sites available to us for production farms in the United States could be reduced.

**We have entered into agreements that require us to pay a significant portion of our future revenue to third parties.**

In 2009, we received a grant from the Atlantic Canada Opportunities Agency to fund a research program. A total of C$2.9 million was made available under the grant, and we received the entire amount through December 31, 2015. If we begin to generate revenue from any of the products from the research program, we must commence repayment of the outstanding loan in the form of a 10% royalty. These payments could negatively impact our ability to support our operations. Revenues from sales of our GE Atlantic salmon are not subject to the royalty.

**We have received government research grants and loans in the past, but such grants and loans may not be available in the future.**

We have in the past received government assistance in the form of research grants and loans to partially fund various research projects, including projects involving our GE Atlantic salmon. There can be no assurance that additional government assistance will be available in the future to help offset the cost of our research activities, in which case we would need to fund our research projects entirely from our available cash resources, which may be limited. This could delay progress on future product development and introduction. In addition, we may be subject to audit by the government agencies that provided research assistance to ensure that the funds were used in accordance with the terms of the grant or loan. Any audit of the use of these funds would require the expenditure of funds and result in the diversion of management's attention.

**Our financial condition or results of operations may be adversely affected by international business risks, including exchange rate fluctuations.**

The majority of our employees, including our research personnel, are currently located outside of the United States. As a consequence of the international nature of our business, we are exposed to risks associated with international operations. For example, we are based in the United States and present our financial statements in U.S. dollars, and the majority of our cash resources are held in U.S. dollars or in Canadian dollars. Some of our future expenses and revenues are expected to be denominated in currencies other than in U.S. dollars. Other risks include possible governmental restrictions of the movement of funds, limitation of contractual rights, or expropriation of assets without fair compensation. Therefore, movements in exchange rates to translate to foreign currencies and other international operational risks may have a negative impact on our reported results of operations, financial position, and cash flows.

**Our ability to use net operating losses and other tax attributes to offset future taxable income may be subject to certain limitations.**

In general, under Sections 382 and 383 of the U.S. Tax Code (the "Code"), a corporation that undergoes an "ownership change" is subject to limitations on its ability to utilize its pre-change net operating losses ("NOLs"), tax credits, or other tax attributes to offset future taxable income or taxes. For these purposes, an ownership change generally occurs where the aggregate stock ownership of one or more stockholders or groups of stockholders who owns at least 5% of a corporation's stock increases its ownership by more than 50 percentage points over its lowest ownership percentage within a specified testing period. In addition to limitations imposed by the 2017 Tax Cuts and Jobs Act, a portion of our NOLs are subject to substantial limitations arising from previous ownership changes, and, if we undergo another ownership change, our ability to utilize NOLs could be further limited by Sections 382 and 383 of the Code. In addition, future changes in our stock ownership, many of which are outside of our control, could result in an ownership change under Sections 382 and 383 of the Code. Our NOLs may also be impaired under state law. Accordingly, we may not be able to utilize a material portion of our NOLs. Furthermore, our ability to utilize our NOLs is conditioned upon our attaining profitability and generating U.S. federal and state taxable income.

***Risks Relating to Regulated Products***

**Our ability to generate revenue to support our operations depends on maintaining regulatory approvals for our GE Atlantic salmon and our farm sites and obtaining new approvals for farm sites and the sale of our products in other markets, the receipt of which is uncertain.**

As a genetically engineered animal for human consumption, our GE Atlantic salmon required approval from the FDA in the United States and the Ministers of Health and Environment in Canada before it could be produced, sold, or consumed in those countries. Our FDA approval covers the production of our eggs in our hatchery in Canada and the grow-out of our eggs in our facilities in Indiana and Rollo Bay. FDA approvals will be needed for each additional facility we plan to operate. Additionally, we will require local regulatory approvals in other countries in which we hope to operate. There is no guarantee that we will receive or be able to maintain regulatory approvals from the FDA or other regulatory bodies or that there will not be a significant delay before approval. There is also no guarantee that any approvals granted will not be subject to onerous obligations in relation to matters such as production or labeling, or that any regulator will not require additional data prior to approval, which may be costly and time-consuming to acquire.

The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels and statutory, regulatory, and policy changes. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of other agencies on which our operations may rely is subject to the political process, which is inherently fluid and unpredictable.

Disruptions at the FDA and other agencies may also slow the time necessary for new applications to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, in May 2021, the FDA released its Resiliency Roadmap for FDA Inspectional Oversight, which described the prioritization process for FDA inspections and oversight. We believe that our GE Atlantic salmon would be treated as a "tier 2 - higher priority" product, but not a "tier 1 - mission critical" product. This designation could potentially impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

**We will be required to continue to comply with FDA and foreign regulations.**

Even with the approval of our NADA and other regulatory applications for our GE Atlantic salmon, we must continue to comply with FDA and other regulatory requirements not only for manufacturing, but also for labeling, advertising, record keeping, and reporting to the FDA and other regulators of adverse events and other information. Failure to comply with these requirements could subject us to administrative or judicial enforcement actions, including but not limited to product seizures, injunctions, civil penalties, criminal prosecution, refusals to approve new products, or withdrawal of existing approvals, as well as increased product liability exposure, any of which could have a material adverse effect on our business, financial condition, or results of operations.

**The markets in which we intend to sell our products are subject to significant regulations.**

In addition to our FDA approval for the sale and consumption of our GE Atlantic salmon in the United States, we are also subject to state and local regulations and permitting requirements, which could impact or delay the commercialization and commencement of revenue generation from the sale of our salmon. International sales also are subject to rules and regulations promulgated by regulatory bodies within foreign jurisdictions. There can be no assurance that foreign, state, or local regulatory bodies will approve the sale and consumption of our product in their jurisdiction.

**We may incur significant costs complying with environmental, health, and safety laws and regulations, and failure to comply with these laws and regulations could expose us to significant liabilities.**

Our operations are subject to a variety of federal, state, local, and international laws and regulations governing, among other matters, the use, generation, manufacture, transportation, international shipment, storage, handling, disposal of, and human exposure to our products in both the United States and overseas, including regulation by governmental regulatory agencies, such as the FDA and the U.S. Environmental Protection Agency. We have incurred, and will continue to incur, capital and operating expenditures and other costs in the ordinary course of our business in complying with these laws and regulations. Additional laws and regulations could be adopted in the future further regulating our business.

**We may become subject to increasing regulation, changes in existing regulations, and review of existing regulatory decisions.**

Regulations pertaining to genetically engineered animals are still developing and could change from their present state. In addition, new legislation could require new regulatory frameworks, changes in existing regulation, or re-evaluation of prior regulatory decisions. For example, despite the FDA's final determination that our GE Atlantic salmon may be sold without being labeled as a genetically engineered product, a provision added to the 2016 Omnibus Appropriations Act required the FDA to issue final guidance for such labeling. The FDA was therefore obligated to maintain an Import Alert starting in January 2016 that prohibited import of our GE Atlantic salmon until such guidance was finalized or the provision was no longer effective. On March 8, 2019, several months after the USDA promulgated its final rule establishing the Disclosure Standard, which included disclosure requirements for bioengineered foods, including our GE Atlantic salmon, the FDA lifted the Import Alert.

Similarly, in July 2017, a bill was introduced in the United States Senate that could have, had it become law, required labeling unique to, as well as re-examination of the environmental assessments used by the FDA in its 2015 approval of the NADA for our GE Atlantic salmon. While this bill was reintroduced in January 2019 without the requirement for re-examination of those environmental assessments, any such legislatively imposed review of a completed regulatory process could result in new restrictions on, or delays in, commercialization of our product in the United States. We could be subject to increasing or more onerous regulatory hurdles as we attempt to commercialize our product, which could require us to incur significant additional capital and operating expenditures and other costs in complying with these laws and regulations. Our regulatory burdens could also increase if our GE Atlantic salmon are found, or believed, to grow to a larger final size than conventional Atlantic salmon.

In addition, the 2020 Appropriations Act, which was signed into law in December 2019, and reintroduced and passed in 2021, 2022 and 2023, contained an amendment that requires that any bioengineered animal approved by FDA prior to the effective date of the Disclosure Standard shall include the words ‘‘genetically engineered’’ prior to the existing acceptable market name. While the Company believes that this labeling requirement is unnecessary and redundant to the requirement of the Disclosure Standard, it will comply with all applicable laws.

Additional regulatory and lawmaking activity within the United States and abroad could increase our costs and/or delay or prevent the production and sales of our GE Atlantic salmon.

**We or regulatory agencies approving our products may be sued by non-governmental organizations and others who are opposed to the development or commercialization of genetically engineered products.**

There are many organizations in the United States and elsewhere that are fundamentally opposed to the development of genetically engineered products. These groups have a history of bringing legal action against companies attempting to bring new biotechnology products to market. On December 23, 2013, an application was filed by two NGOs with the Canadian Federal Court seeking judicial review to declare invalid the decision by the Canadian Minister of the Environment to publish in the Canadian Gazette a Significant New Activity Notice (“SNAN”) with respect to our GE Atlantic salmon. Though the Canadian Federal Court dismissed this challenge, the petitioners filed an appeal of the ruling, which was subsequently dismissed by the Canadian Federal Court of Appeal on October 21, 2016.

On March 30, 2016, a coalition of non-governmental organizations filed a complaint in the United States District Court for the Northern District of California against the FDA, the United States Fish and Wildlife Service, and related individuals for their roles in the approval of our GE Atlantic salmon. Subsequently, the Fish and Wildlife Service was dismissed from the case, and AquaBounty joined the case as an intervenor to protect AquaBounty’s interests. The coalition, including the Center for Food Safety and Friends of the Earth, claimed that the FDA had no statutory authority to regulate genetically engineered animals, and, if it did, the agency failed to adequately analyze and implement measures to mitigate ecological, environmental, and socioeconomic risks that could impact wild salmon and the environment, including the risk that our GE Atlantic salmon could escape and threaten endangered wild salmon stocks. In December 2019, the court found that FDA had authority/jurisdiction over genetically engineered animals and in November 2020, the judge remanded the Environmental Assessment (the approval) to FDA on National Environmental Protection Act (NEPA) and Endangered Species Act (ESA) grounds. In April 2021, the FDA/US Department of Justice filed a notice of appeal relating to several claims in that case, and subsequently withdrew the appeal, and the date to file appeals in the case has expired. The court decision from the Northern District of California does not have a current business impact on AquaBounty’s egg production in Prince Edward Island, Canada, AquaBounty’s salmon production in Albany, Indiana, or AquaBounty’s sales of its fish.

**The term “genetically engineered” will need to be included as part of the acceptable market name for our GE Atlantic salmon, and bioengineering disclosures will need to be provided at the retail level, in accordance with USDA regulations. These disclosures could negatively impact consumer acceptance.**

Until the passage of the National Bioengineered Food Disclosure Law in July 2016, which contained the requirement to establish the Disclosure Standard, our GE Atlantic salmon did not need to be labeled as containing a bioengineered product, because it had been deemed to be “substantially equivalent” to the conventional product. However, because some states either passed or considered new laws specifying varying requirements for labeling products sold at the retail level that contain bioengineered ingredients, the United States Congress passed the National Bioengineered Food Disclosure Law in July 2016, requiring the USDA to establish a mandatory standard for disclosing foods that are or may be bioengineered. USDA issued the National Bioengineered Food Disclosure Standard in December 2018. AquaBounty includes the bioengineered logo on its GE Atlantic salmon packaging, in accordance with the Disclosure Standard. In addition, the 2020 Appropriations Act, which was signed into law in December 2019, which was reintroduced and passed in 2021, 2022 and 2023, contained an amendment that requires that any bioengineered animal approved by FDA prior to the effective date of the Disclosure Standard shall include the words ‘‘genetically engineered’’ prior to the existing acceptable market name. While the Company believes that this labeling requirement is unnecessary and redundant to the requirement of the Disclosure Standard, it complies with all applicable laws. Labeling requirements could cause consumers to view the label as either a warning or as an indication that GE Atlantic salmon is inferior to conventional Atlantic salmon, which could negatively impact consumer acceptance of our product.

*Risks Relating to Intellectual Property*

**Competitors and potential competitors may develop products and technologies that make ours obsolete or garner greater market share than ours.**

We do not believe that we have a direct competitor for bioengineered, growth-enhanced Atlantic salmon. However, the market for Atlantic salmon is dominated by a group of large, multinational corporations with entrenched distribution channels. Competitors may be able to reduce the grow-out times for their conventional sea-cage and RAS farming operations, thus lowering our competitive advantages and reducing their costs. Our ability to compete successfully will depend on our ability to demonstrate that our GE Atlantic salmon is superior to and/or less expensive than other products available in the market.

Certain of our competitors may be better funded than we are and/or benefit from government support and other incentives that are not available to us. At least in part due to these financial advantages, our competitors may be able to develop competing and/or superior products and compete more aggressively and sustain that competition over a longer period of time than we can. As more companies develop new intellectual property in our markets, a competitor could acquire patents or other rights that may limit our ability to successfully market our product.

**If our technologies or products are stolen, misappropriated, or reverse engineered, others could use the technologies to produce competing technologies or products.**

Third parties, including our collaborators, contractors, and others involved in our business often have access to, and may require that we grant interest in, our technologies. If our technologies or products were stolen, misappropriated, or reverse engineered, or if we are forced to grant broad interests in our technologies, they could be used by other parties that may be able to reproduce our technologies or products using our technologies for their own commercial gain. If this were to occur, it would be difficult for us to challenge this type of use, especially in countries with limited intellectual property protection. In addition, third parties granted interests in our technologies could seek to prevent or limit our use or commercialization of those technologies based on claims of partial ownership.

**Our ability to compete may be negatively impacted if we do not adequately protect our proprietary technologies or if we lose some of our intellectual property rights.**

Our success depends in part on our ability to obtain patents and maintain adequate protection of our intellectual property in the United States and abroad for our technologies and resultant products and potential products. We have adopted a strategy of seeking patent protection in the United States and abroad with respect to certain of the technologies used in or relating to our products; however, the patent to the technology covering our GE Atlantic salmon, which we license under a global, perpetual, royalty-free, non-exclusive license from Genesis Group, Inc., an affiliate of Memorial University of Newfoundland, and an affiliate of the Hospital for Sick Children of Toronto, expired in August 2013. We expect to protect our proprietary technology in regard to our GE Atlantic salmon through a combination of in-house know-how and the deterrence of the regulatory process that would need to be completed for a competing product to be commercialized, which we believe provides us with a competitive advantage. There can be no guarantee that this strategy will be successful.

We also rely on trade secrets to protect our technologies, particularly in cases when we believe patent protection is not appropriate or obtainable. However, trade secrets are difficult to protect, and we may not be able to adequately protect our trade secrets or other proprietary or licensed information. While we require our employees, academic collaborators, consultants, and other contractors to enter into confidentiality agreements with us, if we cannot maintain the confidentiality of our proprietary and licensed technologies and other confidential information, our ability and that of our licensor to receive patent protection, and our ability to protect valuable information owned or licensed by us may be imperiled.

**Enforcing our intellectual property rights may be difficult and unpredictable.**

Enforcing our intellectual property rights can be expensive and time consuming, and the outcome of such efforts can be unpredictable. If we were to initiate legal proceedings against a third party to enforce a patent covering one of our technologies, the defendant could counterclaim that our patent is invalid and/or unenforceable or assert that the patent does not cover its manufacturing processes, manufacturing components, or products. Furthermore, in patent litigation in the United States, defendant counterclaims alleging both invalidity and unenforceability are commonplace. Although we may believe that we have conducted our patent prosecution in accordance with the duty of candor and in good faith, the outcome following legal assertions of invalidity and unenforceability during patent litigation is unpredictable. With respect to the validity of our patent rights, we cannot be certain, for example, that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we would not be able to exclude others from practicing the inventions claimed therein. Such a loss of patent protection could have a material adverse impact on our business. Even if our patent rights are found to be valid and enforceable, patent claims that survive litigation may not cover commercially valuable products or prevent competitors from importing or marketing products similar to our own, or using manufacturing processes or manufacturing components similar to those used to produce the products using our technologies.

Although we believe that we have obtained assignments of patent rights from all inventors, if an inventor did not adequately assign their patent rights to us, a third party could obtain a license to the patent from such inventor. This could preclude us from enforcing the patent against such a third party.

**We may not be able to enforce our intellectual property rights throughout the world.**

The laws of some foreign countries do not protect intellectual property rights to the same extent as the laws of the United States. Many companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, often do not favor the enforcement of patents and other intellectual property protection, particularly those relating to bioengineering. This could make it difficult for us to stop the infringement of our patents or misappropriation of our other intellectual property rights. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business. Accordingly, our efforts to protect our intellectual property rights in such countries may be inadequate.

***Risks Relating to our Common Stock***

**The price of our shares of common stock is likely to be volatile.**

The share price of publicly traded emerging companies can be highly volatile and subject to wide fluctuations. The prices at which our common stock is quoted and the prices which investors may realize will be influenced by a large number of factors, some specific to our company and operations and some that may affect the quoted land-based fish farming industry, the biotechnology sector, or quoted companies generally. These factors could include variations in our operating results, publicity regarding the process of obtaining regulatory approval to commercialize our products, divergence in financial results from analysts' expectations, changes in earnings estimates by stock market analysts, overall market or sector sentiment, legislative changes in our sector, the performance of our research and development programs, large purchases or sales of our common stock, currency fluctuations, legislative changes in the bioengineering environment, future sales of our common stock or the perception that such sales could occur and general economic conditions. Certain of these events and factors are outside of our control. Stock markets have from time to time experienced severe price and volume fluctuations, which, if recurring, could adversely affect the market prices for our common stock.

**We may not be able to maintain our listing on Nasdaq, which could limit investors' ability or willingness to make transactions in our securities and subject us to additional trading restrictions**.

Even though our common stock is traded on Nasdaq, we cannot assure you that we will be able to comply with standards necessary to maintain such listing, which may result in our common stock being delisted from Nasdaq. If our common stock were no longer listed on Nasdaq, investors would experience impaired liquidity for our common stock, not only in the number of shares that could be bought and sold at a given price, which might be depressed by the relative illiquidity, but also through delays in the timing of transactions and reduction in media coverage. For example, investors might only be able to trade on one of the over-the-counter markets. In addition, we could face significant material adverse consequences, including:

- a limited availability of market quotations for our securities;
- a limited amount of news and analyst coverage for us; and
- a decreased ability to issue additional securities or obtain additional financing in the future.

On October 31, 2022, we received a letter (the "Notice") from Nasdaq notifying us that, because the closing bid price for our common stock had been below $1.00 per share for the previous 30 consecutive business days, it no longer complied with the minimum bid price requirement for continued listing on Nasdaq. The Notice had no immediate effect on our listing or on the trading of our common stock. The Notice provided us with a compliance period of 180 calendar days, or until May 1, 2023, to regain compliance. We were subsequently granted an additional 180 calendar days, or until October 30, 2023, to regain compliance with the minimum $1.00 bid price per share requirement for continued listing on Nasdaq.

To improve the price level of our common stock so that we could regain compliance with the minimum bid price requirement, on October 12, 2023, our stockholders approved a reverse stock split of our common stock, and our Board of Directors approved a split ratio of 1-for-20. The reverse stock split was implemented on October 16, 2023 and on October 30, 2023, we received a notice from Nasdaq confirming that we had regained compliance with the minimum bid price requirement.

There can be no assurance that we will maintain compliance with the listing requirements. If we fail in the future to comply with Nasdaq listing rules, it could lead to the delisting of our common stock from Nasdaq and our common stock trading, if at all, only on the over-the-counter markets.

**Our share price and our ability to raise additional funds may depend on our success in growing, or our perceived ability to grow, our GE Atlantic salmon successfully and profitably at commercial scale.**

We have not yet demonstrated that we can grow our GE Atlantic salmon successfully or profitably at commercial scale. If we are unsuccessful in growing our salmon to harvest size, achieving our quality standards and selling the fish in the market at a profit from our commercial-scale facilities, or are perceived as being unable to do so prior to commercial-scale harvest and sale, we may lose credibility with the investor community and other funding sources, which could negatively impact the price of our common stock and our ability to raise additional funds.

**An active trading market for our common stock may not be sustained.**

Although our common stock is currently listed and traded on Nasdaq, an active trading market for our common stock may not be maintained. If an active market for our common stock is not maintained, it may be difficult for stockholders to sell shares of our common stock. An inactive trading market may impair our ability to raise capital to continue to fund operations by selling shares and may impair our ability to acquire other companies or technologies by using our shares as consideration.

**We are a "smaller reporting company" and a "non-accelerated filer" and we cannot be certain if applicable scaled disclosure requirements will make our shares of common stock less attractive to investors.**

As a "smaller reporting company," we elected to comply with scaled disclosure requirements relative to companies that are not smaller reporting companies, including but not limited to, reduced disclosure obligations regarding executive compensation in our filings with the SEC. Under current SEC rules, we will continue to qualify as a "smaller reporting company" for so long as (i) we have a public float (i.e., the aggregate market value of common equity held by non-affiliates) of less than $250 million or (ii) our annual revenue is less than $100 million during the most recently completed fiscal year and the aggregate market value of our common stock held by non-affiliates is less than $700 million. In addition, under current SEC rules, we are not an "accelerated filer" and, therefore, are not required to include an auditor attestation of the effectiveness of our internal control over financial reporting in this Annual Report on Form 10-K.

We cannot predict if investors will find our shares of common stock to be less attractive because we rely and may in the future continue to rely on these exemptions. If some investors find our shares of common stock less attractive as a result, there may be a less active trading market for our shares of common stock, and our share price may be more volatile.

**We may issue preferred stock with terms that could dilute the voting power or reduce the value of our common stock.**

While we have no specific plan to issue preferred stock, our certificate of incorporation authorizes us to issue, without the approval of our stockholders, one or more series of preferred stock having such designation, relative powers, preferences (including preferences over our common stock respecting dividends and distributions), voting rights, terms of conversion or redemption, and other relative, participating, optional, or other special rights, if any, of the shares of each such series of preferred stock and any qualifications, limitations, or restrictions thereof, as our Board of Directors may determine. The terms of one or more classes or series of preferred stock could dilute the voting power or reduce the value of our common stock. For example, the repurchase or redemption rights or liquidation preferences we could assign to holders of preferred stock could affect the residual value of the common stock.

**Provisions in our corporate documents and Delaware law could have the effect of delaying, deferring, or preventing a change in control of us, even if that change may be considered beneficial by some of our stockholders.**

The existence of some provisions of our certificate of incorporation or our bylaws or Delaware law could have the effect of delaying, deferring, or preventing a change in control of us that a stockholder may consider favorable. These provisions include:

- providing that the number of members of our Board of Directors is limited to a range fixed by our by-laws;

- establishing advance notice requirements for nominations of candidates for election to our Board of Directors or for proposing matters that can be acted on by stockholders at stockholder meetings; and
- authorizing the issuance of "blank check" preferred stock, which could be issued by our Board of Directors to issue securities with voting rights and thwart a takeover attempt.

As a Delaware corporation, we are also subject to provisions of Delaware law, including Section 203 of the General Corporation Law of the State of Delaware. Section 203 prevents some stockholders holding more than 15% of our voting stock from engaging in certain business combinations unless the business combination or the transaction that resulted in the stockholder becoming an interested stockholder was approved in advance by our Board of Directors, results in the stockholder holding more than 85% of our voting stock (subject to certain restrictions), or is approved at an annual or special meeting of stockholders by the holders of at least 66 2/3% of our voting stock not held by the stockholder engaging in the transaction. Any provision of our certificate of incorporation or our bylaws or Delaware law that has the effect of delaying or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock and affect the price that some investors are willing to pay for our common stock.

**We do not anticipate paying cash dividends in the foreseeable future, and, accordingly, stockholders must rely on stock appreciation for any return on their investment.**

We have never declared or paid cash dividends on our common stock. We do not anticipate paying cash dividends in the foreseeable future and intend to retain all of our future earnings, if any, to finance the operations, development, and growth of our business. There can be no assurance that we will have sufficient surplus under Delaware law to be able to pay any dividends at any time in the future. As a result, absent payment of dividends, only appreciation of the price of our common stock, which may never occur, will provide a return to stockholders. You may also have to sell some or all of your shares of our common stock in order to generate cash flow from your investment in us.

## Item 1B. Unresolved Staff Comments

None.

## Item 1C. Cybersecurity

We have developed and implemented a cybersecurity risk management program intended to protect the confidentiality, integrity, and availability of our critical systems and information.

We design and assess our program based on the National Institute of Standards and Technology Cybersecurity Framework ("NIST CSF"). This does not imply that we meet any particular technical standards, specifications, or requirements, only that we use the NIST CSF as a guide to help us identify, assess, and manage cybersecurity risks relevant to our business.

Our cybersecurity risk management program is integrated into our overall enterprise risk management program, and shares common methodologies, reporting channels and governance processes that apply across the enterprise risk management program to other legal, compliance, strategic, operational, and financial risk areas.

Our cybersecurity risk management program includes, but is not limited to, the following key elements:

- risk assessments designed to help identify material cybersecurity risks to our critical systems and information;
- a security team principally responsible for managing (1) our cybersecurity risk assessment processes, (2) our security controls, and (3) our response to cybersecurity incidents;
- the use of external service providers, where appropriate, to assess, test or otherwise assist with aspects of our security processes;
- cybersecurity awareness training of our employees, incident response personnel, and senior management; and
- a cybersecurity incident response plan that includes procedures for responding to cybersecurity incidents.

We have not identified risks from known cybersecurity threats, including as a result of any prior cybersecurity incidents, that have materially affected us, including our operations, business strategy, results of operations or financial condition. We face risks from cybersecurity threats that, if realized, are reasonably likely to materially affect us, including our operations, business strategy, results of operations or financial condition. There were no material cybersecurity breaches during 2023. See "Risk Factors – Security breaches, cyber-attacks and other disruptions could compromise our information, expose us to fraud or liability, or interrupt our operations, which would cause our business and reputation to suffer."

**Cybersecurity Governance**

Our Board of Directors considers cybersecurity risk as part of its risk oversight function and oversees management's implementation of our cybersecurity risk management program. The Board of Directors receives periodic reports from management on our cybersecurity risks and management updates the Board of Directors, as necessary, regarding any material cybersecurity incidents, as well as any incidents with lesser impact potential. The Board of Directors also receives briefings from management on our cybersecurity risk management program and presentations on cybersecurity topics from external experts as part of the Board of Directors' continuing education on topics that impact public companies.

Our management team, including our Chief Financial Officer, is responsible for assessing and managing our material risks from cybersecurity threats. The team has primary responsibility for our overall cybersecurity risk management program and supervises both our external cybersecurity personnel and our retained external cybersecurity consultants. Our Chief Financial Officer has been managing our information technology resources for over 16 years and has overseen our cybersecurity risk assessment and the implementation of our cybersecurity risk management program since its inception.

Our management team stays informed about and monitors efforts to prevent, detect, mitigate, and remediate cybersecurity risks and incidents through various means, which may include briefings from external security personnel, threat intelligence and other information obtained from governmental, public or private sources, including external consultants engaged by us, and alerts and reports produced by security tools deployed in the information technology environment.

## Item 2. Properties

Our corporate headquarters is located in Harvard, Massachusetts, and consists of approximately 2,000 square feet of office space under a three-year lease. We own a production grow-out farm in Indiana, which has the potential to produce 1,200 metric tons of our fish annually. However, in February 2024, we announced our plan to sell our Indiana farm operations. On Prince Edward Island, Canada, we own a hatchery in Fortune Bay and a salmon farm in Rollo Bay, that consists of a hatchery, a broodstock facility, and a second broodstock facility that is currently under construction. In 2022, we purchased a parcel of land in Pioneer, Ohio on which we have commenced construction of a 479,000 square foot production grow-out farm. We believe that the spaces that we lease and own are sufficient to meet our current and near-term needs. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

## Item 3. Legal Proceedings

We are not party to any legal proceedings the outcome of which, we believe, if determined adversely to us, would individually or in the aggregate have a material adverse effect on our future business, consolidated results of operations, cash flows, or financial position. We may, from time to time, be subject to legal proceedings and claims arising from the normal course of business activities.

## Item 4. Mine Safety Disclosures

Not applicable.

# Part II

## Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

**Market Information**

Our common stock is currently traded on the Nasdaq Capital Market under the symbol “AQB.” As of March 25, 2024, 3,857,444 shares of our common stock were issued and outstanding.

As of March 25, 2024, there were approximately 220 holders of record of our common stock. The actual number of stockholders is greater than this number and includes stockholders who are beneficial owners, but whose shares are held in street name by brokers and other nominees. The transfer agent for our common stock is Computershare Trust Company, N.A.

**Dividends**

We have never declared or paid any cash dividends on our common stock. We currently intend to retain earnings, if any, to finance the growth and development of our business. We do not expect to pay any cash dividends on our common stock in the foreseeable future. Payment of future dividends, if any, will be at the discretion of our Board of Directors and will depend on our financial condition, results of operations, capital requirements, restrictions contained in current or future financing instruments, provisions of applicable law, and other factors the Board of Directors deems relevant.

## Item 6. Reserved

Not Applicable.

## Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and related notes that appear elsewhere in this Annual Report on Form 10-K. In addition to historical consolidated financial information, the following discussion contains forward-looking statements that reflect our plans, estimates, and beliefs. Our actual results could differ materially from those discussed in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Annual Report on Form 10-K, particularly in "Risk Factors."

**Overview**

We believe that we are a distinctive brand in the field of land-based aquaculture, leveraging decades of technology expertise to deliver innovative solutions that address food insecurity and climate change issues, while improving efficiency and sustainability. We provide fresh Atlantic salmon to nearby markets by raising our fish in carefully monitored land-based fish farms through a safe, secure and sustainable process. Our land-based Recirculating Aquaculture System farms, including our grow-out farm located in Indiana in the United States and our broodstock and egg production farm located on Prince Edward Island in Canada, are close to key consumption markets and are designed to prevent disease and to include multiple levels of fish containment to protect wild fish populations. We are raising nutritious salmon that is free of antibiotics and other contaminants and provides a solution with a reduced carbon footprint without the risk of pollution to marine ecosystems as compared to traditional sea-cage farming. Our primary product is our GE Atlantic salmon, which received FDA approval in 2015 as the first genetically engineered animal available for sale for human consumption. We commenced commercial activities in 2021 with operations in the United States and Canada. We are actively engaged in genetic, genomic, fish health and fish nutrition research, which drive continuous improvement in our operations and may lead to new, disruptive technologies and products that could further expand our competitive offerings.

**Company Update**

We have been pursuing a growth strategy that includes the construction of large-scale recirculating aquaculture system farms for producing our GE Atlantic salmon. Our farm in Pioneer, Ohio is under construction and roughly 30% complete, but construction activities have been paused. To fund the construction cost, we were using cash on hand, which would be supplemented by a municipal bond financing. However, during the initial two years of construction, the cost estimate for the farm increased substantially and eventually exceeded our ability to complete the proposed financing. Consequently, we require new financing to provide liquidity for working capital and to fund the construction of our farm in Pioneer, Ohio. To meet this need, we have engaged an investment bank to pursue a range of funding and strategic alternatives, including the recently announced sale process for our Indiana farm, potential debt financing secured by our unencumbered assets, and potential joint venture partnerships or other strategic transactions.

**Inflation**

Recently elevated global inflation rates continue to impact all areas of our business. We are experiencing higher costs for farming supplies, transportation costs, wage rates, and other direct operating expenses, as well as for capital expenditures related to the construction of our farm in Ohio. We expect inflation to continue to negatively impact our results of operations for the near-term.

**Financial Overview**

We expect our future capital requirements will be substantial, particularly as we continue to develop our business and expand our commercial activities, as discussed in "Liquidity and Capital Resources".

**Product Revenue**

We have generated product revenue primarily through the sales of our GE Atlantic salmon, supplemented by sales of conventional Atlantic salmon, salmon eggs, fry, and byproducts. With the expected sale of our Indiana farm, our product revenues will consist of conventional Atlantic salmon eggs and fry for the near term.

**Product Costs**

Product costs include the labor and related costs to grow out our fish, including feed, oxygen, and other direct costs; overhead; and the cost to process and ship our products to customers. A portion of production costs is absorbed into inventory as fish in process to the extent that these costs do not exceed the net realizable value of the fish biomass. The costs that are not absorbed into inventory, as well as any net realizable value inventory adjustments, are classified as product costs. Our product costs also include the labor and related costs to maintain our salmon broodstock. As of December 31, 2023 and 2022, we had 82 and 70 employees, respectively, engaged in production activities.

**Sales and Marketing Expenses**

Our sales and marketing expenses currently include salaries and related costs for our sales personnel and agency fees for market-related activities. As of December 31, 2023 and 2022, we had one and two employees, respectively, dedicated to sales and marketing. We expect our sales and marketing expenses to increase as our production output and revenues grow.

### Research and Development Expenses

We recognize research and development expenses as they are incurred. Our research and development expenses consist primarily of salaries and related overhead expenses for personnel in research and development functions; fees paid to contract research organizations and consultants who perform research for us; and costs related to laboratory supplies used in our research and development efforts. As of December 31, 2023 and 2022, we employed six and 12 scientists and technicians, respectively, at our farms to oversee the lines of fish we maintain for research and development purposes.

### General and Administrative Expenses

General and administrative expenses consist primarily of salaries and related costs for employees in executive, corporate, and finance functions. Other significant general and administrative expenses include corporate governance and public company costs, regulatory affairs, rent and utilities, insurance, and legal services. We had 15 and 16 employees in our general and administrative group at December 31, 2023 and 2022, respectively.

### Other Income (Expense), Net

Interest expense includes the interest on our outstanding loans and the amortization of debt issuance costs. Other income (expense) includes bank charges, fees, interest income, miscellaneous gains or losses on asset disposals and realized gains or losses on investments.

## Critical Accounting Policies and Estimates

This Management's Discussion and Analysis of Financial Condition and Results of Operations is based on our consolidated financial statements, which we have prepared in accordance with GAAP. The preparation of our consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenues and expenses during the reporting periods. We evaluate these estimates and judgments on an ongoing basis. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Our actual results may differ from these estimates under different assumptions or conditions. While our significant accounting policies are more fully described in Note 2 to our audited consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K, we believe that the following accounting policies and estimates are the most critical for fully understanding and evaluating our financial condition and results of operations.

### Inventories

Inventories are mainly comprised of feed, eggs, fry, fish in process and fish for sale. Fish in process inventory is a biological asset that is measured based on the estimated biomass of fish on hand. The estimate of fish biomass contains uncertainty, as we cannot weigh each individual fish until harvest. We have therefore established a standard procedure to estimate the biomass of fish on hand using counting and sampling techniques. Historically, our estimate of fish biomass has had a variability of approximately 4%. We measure inventory at the lower of cost or net realizable value ("NRV"), where NRV is defined as the estimated market price, less the estimated costs of processing, packaging and transportation. We consider fish that have been harvested and transported from its farm to be fish for sale.

### Revenue Recognition

We generate revenue from the sale of our products. Revenue is recognized when the customer takes physical control of the goods, in an amount that reflects the transaction price consideration that we expect to receive in exchange for the goods. Revenue excludes any sales tax collected and includes any estimate of future credits.

## Recent Accounting Pronouncements

We do not expect any recently issued, but not yet effective, accounting standards to have a material effect on our results of operations or financial condition.

**Results of Operations**

**Comparison of the year ended December 31, 2023 to the year ended December 31, 2022.**

The following table summarizes our results of operations for the years ended December 31, 2023 and 2022, together with the changes in those items in dollars (in thousands) and as a percentage:

| | Years Ended December 31, 2023 | Years Ended December 31, 2022 | Dollar Change | % Change |
|---|---|---|---|---|
| Product revenue | $ **2,473** | $ 3,137 | (664) | (21)% |
| Operating expenses: | | | | |
| Product costs | **15,282** | 13,631 | 1,651 | 12% |
| Sales and marketing | **796** | 1,139 | (343) | (30)% |
| Research and development | **704** | 904 | (200) | (22)% |
| General and administrative | **13,008** | 9,787 | 3,221 | 33% |
| Operating loss | **27,317** | 22,324 | 4,993 | 22% |
| Total other (expense) income | **(241)** | 167 | (408) | (244)% |
| Net loss | $ **27,558** | $ 22,157 | 5,401 | 24% |

*Product Revenue*

Product revenue for the year ended December 31, 2023 consisted of sales of our GE Atlantic salmon and conventional Atlantic salmon eggs, fry and byproducts. During the current year, we increased the volume of harvests of GE Atlantic salmon from our Indiana farm and completed the transition of our Rollo Bay farm to a broodstock and egg production facility. Our Indiana farm required extensive repairs to one of its buildings during the fourth quarter of 2022, which impacted the number of fish that could be harvested and sold during the final two months of 2022 and the first two months of 2023. The decrease in revenue during the year ended December 31, 2023 was primarily due to changes in product mix during the first half of 2023 and decreases in market prices for Atlantic salmon in the second half of 2023.

| | Years Ended December 31, 2023 | Years Ended December 31, 2022 | Change | % Change |
|---|---|---|---|---|
| Harvest of GE Atlantic salmon (mt) | 492 | 430 | 62 | 14% |
| Product revenue | | | | |
| GE Atlantic salmon revenue | $ 2,332 | $ 2,913 | $ (581) | (20)% |
| Non-GE Atlantic salmon revenue | 124 | 187 | (63) | (34)% |
| Other revenue | 17 | 37 | (20) | (54)% |
| Total product revenue | $ 2,473 | $ 3,137 | $ (664) | (21)% |

*Product Costs*

Product costs for the year ended December 31, 2023 were up from the year ended December 31, 2022, due to production cost increases for labor and other direct costs related to increased production output and inflation. Increases included headcount additions, feed costs and other direct supplies, maintenance and repairs, as well as the costs for processing and transportation to bring our product to market.

*Sales and Marketing Expenses*

Sales and marketing expenses for the year ended December 31, 2023 were down from the year ended December 31, 2022, primarily due to a decrease in marketing program costs.

*Research and Development Expenses*

Research and development expenses for the year ended December 31, 2023 were down from the year ended December 31, 2022, due to the receipt of provincial government grant funds in support of local hiring and a reduction in outside research costs. Gross research and development expenses for the year ended December 31, 2023, excluding the grant funds, were $816 thousand versus $935 thousand in 2022. During the current period, research activities continued in key strategic areas of genomics and breeding, gene editing, fish health and operational optimization.

*General and Administrative Expenses*

General and administrative expenses for the year ended December 31, 2023 were up from the year ended December 31, 2022, due to increases in legal fees, state excise taxes, personnel, audit fees, consulting fees and share-based compensation charges.

*Total Other (Expense) Income*

Total other (expense) income for 2023 and 2022 is comprised of interest income, interest on debt, bank charges, and miscellaneous gains and losses on the disposal of assets. The change in total other (expense) income in the year ended December 31, 2023, compared to the year ended December 31, 2022, was primarily due to interest income, which was down considerably in 2023 compared to 2022, due to a reduction in marketable securities.

**Liquidity and Capital Resources**

**Sources of Liquidity**

We have incurred losses from operations since our inception in 1991, and, as of December 31, 2023, we had an accumulated deficit of $221 million. We expect to continue to experience losses from operations for the foreseeable future and we will require substantial additional cash to fund our business plans. Liquidity has primarily come from equity financings, supplemented by debt transactions.

During 2023 and 2022, we received $418 thousand and $476 thousand, respectively, in debt proceeds on an existing loan facility.

In the future, we expect to use both debt and equity issuances to fund our continued operations and growth opportunities.

As of December 31, 2023, we had $9.2 million in cash, cash equivalents, and restricted cash.

Our principal contractual commitments include capital expenditure obligations, repayments of debt and related interest, and payments under operating leases. Refer to the notes in our consolidated financial statements for further information about our capital expenditure commitments (Note 6), debt (Note 7), and lease payment obligations (Note 10).

**Cash Flows**

The following table sets forth the significant sources and uses of cash for the periods set forth below (in thousands):

| | Years Ended December 31, 2023 | Years Ended December 31, 2022 | Dollar Change | % Change |
|---|---|---|---|---|
| Net cash (used in) provided by: | | | | |
| Operating activities | $ **(24,236)** | $ (21,007) | (3,229) | 15% |
| Investing activities | **(68,893)** | 34,350 | (103,243) | (301)% |
| Financing activities | **(309)** | (162) | (147) | 91% |
| Effect of exchange rate changes on cash | **3** | 3 | - | —% |
| Net change in cash | $ **(93,435)** | $ 13,184 | (106,619) | (809)% |

*Cash Flows from Operating Activities*

Net cash used in operating activities during the year ended December 31, 2023, was primarily due to our $27.6 million net loss, partially offset by non-cash depreciation and share-based compensation charges of $2.7 million and decreased by working capital sources of $0.6 million. Spending on operations increased in 2023 due to increases in production activities at our Rollo Bay and Indiana farm sites, increases in headcount and increases in costs for excise taxes, legal fees and professional fees. The decrease in cash provided by working capital was due primarily to a decrease in inventory and prepaid expenses, partially offset by an increase in accrued expenses. We expect cash flows from operating activities to remain negative and roughly flat in the near term.

Net cash used in operating activities during the year ended December 31, 2022, was primarily comprised of our $22.2 million net loss, partially offset by non-cash depreciation and share-based compensation charges of $2.6 million and increased by working capital uses of $1.4 million. Spending on operations increased in 2022 due to increases in production activities at our Rollo Bay and Indiana farm sites, increases in headcount and increases in costs for insurance, taxes, and professional fees. The increase in cash used for working capital was due primarily to increases in inventory and prepaid expenses, partially offset by an increase in accrued expenses.

*Cash Flows from Investing Activities*

During 2023, we used $65.1 million for construction charges and equipment deposits for our Ohio farm, and $2.2 million and $1.6 million for equipment purchases and deposits for our Indiana and Rollo Bay farms, respectively.

During 2022, we used $65.1 million for construction charges and equipment deposits for our Ohio farm, and $1.4 million and $1.0 million for equipment purchases and deposits for our Indiana and Rollo Bay farms, respectively, and we received $101.8 million on the net sales of marketable securities.

We have paused construction at our Ohio farm, but we expect expenditures on capital projects to increase in future periods once we secure additional funding and resume construction at the site. For more information, see "*Our current business plans include the need for substantial additional capital, and without it, we may not be able to implement our strategy as planned or at all*."

*Cash Flows from Financing Activities*

During 2023, we received approximately $418 thousand in proceeds from new debt, and we repaid $726 thousand of outstanding debt. During 2022, we received approximately $476 thousand in proceeds from new debt, and we repaid $640 thousand of outstanding debt.

**Future Capital Requirements**

Since inception, we have incurred cumulative net losses and negative cash flows from operating activities and we expect this to continue for the foreseeable future. As of December 31, 2023, we had $9.2 million of cash, cash equivalents, and restricted cash, a significant portion of which is required to fund our current liabilities and other contractual obligations. Our ability to continue as a going concern is dependent upon our ability to raise additional capital, and there can be no assurance that such capital will be available in sufficient amounts, on a timely basis, on terms acceptable to us, or at all. This raises substantial doubt about our ability to continue as a going concern within one year after the date that the accompanying consolidated financial statements are issued.

Until such time, if ever, as we can generate positive cash flows from operating activities, we may finance our cash needs through a combination of equity offerings, debt financings, government or other third-party funding, strategic alliances, and licensing arrangements, as well as our announced plan to sell our Indiana farm. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interests of holders of our common stock will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of holders of our common stock. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures, or declaring dividends. If we raise additional funds through government or other third-party funding, marketing and distribution arrangements, or other collaborations, strategic alliances, or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs, or product candidates or to grant licenses on terms that may not be favorable to us.

If we are unable to generate additional funds in a timely manner, we will exhaust our resources and will be unable to maintain our currently planned operations. If we cannot continue as a going concern, our stockholders would likely lose most or all of their investment in us.

## Item 7A. Quantitative and Qualitative Disclosures About Market Risk

The following sections provide quantitative information on our exposure to interest rate risk and foreign currency exchange risk. We make use of sensitivity analyses, which are inherently limited in estimating actual losses in fair value that can occur from changes in market conditions.

**Interest Rate Risk**

Our primary exposure to market risk is interest rate risk associated with debt financing that we utilize from time to time to fund operations or specific projects. The interest on this debt is usually determined based on a fixed rate and is contractually set in advance. As of December 31, 2023 and December 31, 2022, we had $4.6 million and $5.1 million, respectively, in interest-bearing debt instruments on our consolidated balance sheet. All of our interest-bearing debt is at fixed rates, except for our loan with First Farmers' Bank and Trust, which will have a rate reset in July 2025.

**Foreign Currency Exchange Risk**

Our functional currency is the U.S. Dollar. The functional currency of our Canadian subsidiary is the Canadian Dollar, and the functional currency of our U.S. and Brazil subsidiaries is the U.S. Dollar. For the Canadian subsidiary, assets and liabilities are translated at the exchange rates in effect at the balance sheet date, equity accounts are translated at the historical exchange rate, and the income statement accounts are translated at the average rate for each period during the year. Net translation gains or losses are adjusted directly to a separate component of other comprehensive loss within stockholders' equity.

## Item 8. Financial Statements and Supplementary Data

The financial statements required by this Item are located beginning on page F-1 of this Annual Report.

## Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure

None.

## Item 9A. Controls and Procedures

**Evaluation of Disclosure Controls and Procedures**

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is: (1) recorded, processed, summarized, and reported within the time periods specified in the Securities and Exchange Commission's rules and forms and (2) accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosure. As of December 31, 2023 (the "Evaluation Date"), our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act). Our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Our Chief Executive Officer and Chief Financial Officer have concluded based upon the evaluation described above that, as of the Evaluation Date, our disclosure controls and procedures were effective at the reasonable assurance level.

**Management's Report on Internal Control over Financial Reporting**

Our management is responsible for establishing and maintaining adequate internal control over financial reporting for our Company. Internal control over financial reporting is defined in Rules 13a-15(f) and 15(d)-15(f) promulgated under the Exchange Act, as a process designed by, or under the supervision of, our Chief Executive and Chief Financial Officers and effected by our Board of Directors, management, and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles and includes those policies and procedures that:

- pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and disposition of our assets;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles;
- provide reasonable assurance that our receipts and expenditures are being made only in accordance with authorization of our management and directors; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on the financial statements.

Because of inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risks that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate.

Our management, including our Chief Executive Officer and Chief Financial Officer, has conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2023. In conducting this evaluation, we used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control-Integrated Framework (2013).

Based upon this evaluation and those criteria, management believes that, as of December 31, 2023, our internal control over financial reporting were effective.

This Annual Report on Form 10-K does not include an auditor's attestation of management's assessment of internal control over financial reporting as of December 31, 2023, as we are not an "accelerated filer" under SEC rules.

**Changes in Internal Control**

There have been no changes in our internal control over financial reporting for the three months ended December 31, 2023, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

## Item 9B. Other Information

During the three months ended December 31, 2023, no director or officer of the Company adopted or terminated a “Rule 10b5-1 trading arrangement” or “non-Rule 10b5-1 trading arrangement,” as each term is defined in Item 408 of Regulation S-K.

## Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

# Part III

## Item 10. Directors, Executive Officers and Corporate Governance

The information required by this Item is set forth in our 2024 Proxy Statement to be filed with the SEC within 120 days of December 31, 2023, and is incorporated by reference into this Annual Report on Form 10-K.

## Item 11. Executive Compensation

The information required by this Item is set forth in our 2024 Proxy Statement to be filed with the SEC within 120 days of December 31, 2023, and is incorporated by reference into this Annual Report on Form 10-K.

## Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this Item is set forth in our 2024 Proxy Statement to be filed with the SEC within 120 days of December 31, 2023, and is incorporated by reference into this Annual Report on Form 10-K.

## Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this Item is set forth in our 2024 Proxy Statement to be filed with the SEC within 120 days of December 31, 2023, and is incorporated by reference into this Annual Report on Form 10-K.

## Item 14. Principal Accountant Fees and Services

The information required by this Item is set forth in our 2024 Proxy Statement to be filed with the SEC within 120 days of December 31, 2023 and is incorporated by reference into this Annual Report on Form 10-K, for Deloitte & Touche LLP (PCAOB ID No. 34).

## Part IV

## Item 15. Exhibit and Financial Statement Schedules

**List of Documents Filed as Part of this Report**

**1. Consolidated Financial Statements**

The following consolidated financial statements are filed herewith in accordance with Item 8 of Part II above:

(i) Report of Independent Registered Public Accounting Firm

(ii) Consolidated Balance Sheets

(iii) Consolidated Statements of Operations and Comprehensive Loss

(iv) Consolidated Statements of Changes in Stockholders' Equity

(v) Consolidated Statements of Cash Flows

(vi) Notes to Consolidated Financial Statements

**2. Schedules**

Schedules not listed are omitted because the required information is inapplicable or is presented in the consolidated financial statements.

**3. Exhibits**

| Exhibit Number | Exhibit Description |
|---|---|
| 3.1* | Third Amended and Restated Certificate of Incorporation of AquaBounty Technologies, Inc. (incorporated by reference to Exhibit 3.1 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016). |
| 3.2* | Certificate of Amendment of Third Amended and Restated Certificate of Incorporation of AquaBounty Technologies, Inc. (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K, filed on January 6, 2017). |
| 3.3* | Certificate of Amendment of Third Amended and Restated Certificate of Incorporation of AquaBounty Technologies, Inc. (incorporated by reference to Exhibit 3.3 to the Registrant's Registration Statement on Form S-1, filed on January 15, 2020). |
| 3.4* | Certificate of Amendment of Third Amended and Restated Certificate of Incorporation of AquaBounty Technologies, Inc. (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K, filed on November 19, 2020). |
| 3.5* | Certificate of Amendment of Third Amended and Restated Certificate of Incorporation of AquaBounty Technologies, Inc. (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K, filed on May 27, 2022). |
| 3.6* | Certificate of Validation dated October 18, 2022 relating to Certificate of Amendment to the Third Amended and Restated Certificate of Incorporation of AquaBounty Technologies, Inc. dated May 27, 2022 (incorporated by reference to Exhibit 3.5 to the Registrant's Quarterly Report on Form 10-Q, filed on November 8, 2022). |
| 3.7* | Certificate of Amendment of Third Amended and Restated Certificate of Incorporation of AquaBounty Technologies, Inc. (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K, filed on October 13, 2023). |
| 3.8* | Amended and Restated Bylaws of AquaBounty Technologies, Inc. (incorporated by reference to Exhibit 3.2 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016). |
| 4.1* | Specimen Certificate of Common Stock (incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016). |
| 4.2* | Specimen Common Stock Purchase Warrant (incorporated by reference to Exhibit 4.2 to the Registrant's Registration Statement on Form S-1, filed on January 9, 2018). |
| 4.3* | Description of Registrant's securities. (incorporated by reference to Exhibit 4.3 to the Registration's Annual Report on Form 10-K, filed on March 10, 2020). |
| 10.1* | Stock Purchase Agreement, by and between AquaBounty Technologies, Inc. and Intrexon Corporation, dated November 7, 2016 (incorporated by reference to Exhibit 10.1 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016). |
| 10.2*† | AquaBounty Technologies, Inc. 2006 Equity Incentive Plan (incorporated by reference to Exhibit 10.2 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016). |
| 10.3*† | Amendment No. 1 to AquaBounty Technologies, Inc. 2006 Equity Incentive Plan (incorporated by reference to Exhibit 10.3 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016). |
| 10.4*† | Form of Stock Option Agreement pursuant to AquaBounty Technologies, Inc. 2006 Equity Incentive Plan (incorporated by reference to Exhibit 10.4 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016). |
| 10.5*† | Form of Restricted Stock Agreement pursuant to AquaBounty Technologies, Inc. 2006 Equity Incentive Plan (incorporated by reference to Exhibit 10.5 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016). |
| 10.6*† | AquaBounty Technologies, Inc. 2016 Equity Incentive Plan (incorporated by reference to Exhibit 10.6 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016). |
| 10.7*† | Amendment No. 1 to AquaBounty Technologies, Inc. 2016 Equity Incentive Plan (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K, filed on May 2. 2019). |
| 10.8*† | Amendment No. 2 to AquaBounty Technologies, Inc. 2016 Equity Incentive Plan (incorporated by reference to Exhibit 10.3 to the Registrant's Current Report on Form 8-K, filed on April 29, 2020). |
| 10.9*† | Form of Stock Option Agreement pursuant to AquaBounty Technologies, Inc. 2016 Equity Incentive Plan (incorporated by reference to Exhibit 10.22 to the Registrant's Registration Statement on Form 10, filed on December 12, 2016). |
| 10.10*† | Form of Restricted Stock Purchase Agreement pursuant to AquaBounty Technologies, Inc. 2016 Equity Incentive Plan (incorporated by reference to Exhibit 10.21 to the Registrant's Registration Statement on Form 10, filed on December 12, 2016). |

| | |
|---|---|
| 10.11* | Form of Warrant Exercise Agreement, by and between AquaBounty Technologies, Inc. and certain holders of its Common Stock Purchase Warrants, dated October 24, 2018 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed on October 25, 2018). |
| 10.12* | Agreement, by and among Atlantic Canada Opportunities Agency and AQUA Bounty Canada Inc. and AquaBounty Technologies Inc., dated December 16, 2009 (incorporated by reference to Exhibit 10.14 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016). |
| 10.13* | Offer Letter, dated as of July 10, 2018, from Prince Edward Island Century 2000 Fund Inc. to AQUA Bounty Canada Inc. and accepted by AQUA Bounty Canada Inc. and AquaBounty Technologies, Inc. on August 20, 2018 (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q, filed on November 2, 2018). |
| 10.14* | Negotiable Promissory Note, dated as of October 16, 2018, issued by AQUA Bounty Canada Inc. in favor of Prince Edward Island Century 2000 Fund Inc. (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q, filed on November 2, 2018). |
| 10.15* | Collateral Mortgage dated as of July 26, 2016, by and between AQUA Bounty Canada Inc. and Prince Edward Island Century 2000 Fund Inc. (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q, filed on November 2, 2018). |
| 10.16* | Collateral Mortgage, dated as of October 9, 2018, by and between AQUA Bounty Canada Inc. and Prince Edward Island Century 2000 Fund Inc. (incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q, filed on November 2, 2018). |
| 10.17* | General Security Agreement, dated as of July 26, 2016, by and between AQUA Bounty Canada Inc. and Prince Edward Island Century 2000 Fund Inc. (incorporated by reference to Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q, filed on November 2, 2018). |
| 10.18* | Guarantee, dated as of October 9, 2018, made by AquaBounty Technologies, Inc. in favor of Prince Edward Island Century 2000 Fund Inc. (incorporated by reference to Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q, filed on November 2, 2018). |
| 10.19*† | Executive Employment Agreement, by and between Sylvia Wulf and AquaBounty Technologies, Inc., dated November 27, 2018 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed on November 28, 2018). |
| 10.20*† | Employment Agreement, by and between David Frank and AquaBounty Technologies, Inc., dated October 1, 2007 (incorporated by reference to Exhibit 10.16 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016). |
| 10.21*† | Employment Agreement, by and between Alejandro Rojas and AquaBounty Technologies, Inc., dated December 30, 2013 (incorporated by reference to Exhibit 10.17 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016). |
| 10.22* | Intellectual Property License and Full and Final Release among Genesis Group Inc., HSC Research and Development Partnership and AquaBounty Technologies, Inc., dated February 28, 2014 (incorporated by reference to Exhibit 10.19 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016). |
| 10.23* | Asset Purchase Agreement by and between AquaBounty Technologies, Inc. and Bell Fish Company LLC, dated as of June 9, 2017 (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q, filed on August 4, 2017). |
| 10.24*# | Loan and Security Agreement by and between AquaBounty Farms Indiana LLC and First Farmers Bank and Trust, dated as of July 31, 2020 (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q, filed on August 6, 2020). |
| 10.30* | Term Note granted by AquaBounty Farms Indiana LLC in favor of First Farmers Bank and Trust, dated as of July 31, 2020 (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q, filed on August 6, 2020). |
| 10.25* | Mortgage, Assignment of Rents and Leases, Security Agreement, Fixture Filing and Financing Statement granted by AquaBounty Technologies, Inc. in favor of First Farmers Bank and Trust, dated as of July 31, 2020 (incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q, filed on August 6, 2020). |
| 10.26* | Guarantor Security Agreement by and between AquaBounty Technologies, Inc. and First Farmers Bank and Trust, dated as of July 31, 2020 (incorporated by reference to Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q, filed on August 6, 2020). |
| 10.27* | Unconditional and Continuing Secured Guaranty Agreement by and between AquaBounty Technologies, Inc. and First Farmers Bank and Trust, dated as of July 31, 2020 (incorporated by reference to Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q, filed on August 6, 2020). |

| | |
|---|---|
| 10.28* | Collateral Access Agreement by and between AquaBounty Technologies, Inc. and First Farmers Bank and Trust, dated as of July 31, 2020 (incorporated by reference to Exhibit 10.7 to the Registrant's Quarterly Report on Form 10-Q, filed on August 6, 2020). |
| 10.29* | Unconditional and Continuing Guaranty Agreement by and between AquaBounty Farms, Inc. and First Farmers Bank and Trust, dated as of July 31, 2020 (incorporated by reference to Exhibit 10.8 to the Registrant's Quarterly Report on Form 10-Q, filed on August 6, 2020). |
| 10.30* | Environmental Indemnity Agreement by and among AquaBounty Technologies, Inc., AquaBounty Farms Indiana LLC and First Farmers Bank and Trust, dated as of July 31, 2020 (incorporated by reference to Exhibit 10.9 to the Registrant's Quarterly Report on Form 10-Q, filed on August 6, 2020). |
| 10.31* | Letter Agreement between AquaBounty Technologies, Inc. and Third Security And its affiliates dated July 30, 2021 (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q, filed on November 4, 2021). |
| 10.32^ | Agreement For Architectural/Engineering Services between AquaBounty Farms Ohio LLC and Clark, Richardson and Biskup Consulting Engineers, Inc. (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed on March 3, 2023). |
| 10.33† | Amended and Restated Employment Agreement, by and between David Frank and AquaBounty Technologies, Inc., dated March 29, 2023 (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q, filed on May 4, 2023). |
| 10.34† | Employment Agreement, by and between Angela Olsen and AquaBounty Technologies, Inc., dated November 1, 2019 (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q, filed on May 4, 2023). |
| 10.35† | Form of Restricted Stock Unit Agreement pursuant to AquaBounty Technologies, Inc. 2016 Equity Incentive Plan (incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q, filed on May 4, 2023). |
| 10.36† | Amendment No. 3 to AquaBounty Technologies, Inc. 2016 Equity Incentive Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed on May 26, 2023). |
| 10.37^ | Agreement For Construction Management Services Between AquaBounty Farms Ohio LLC and Gilbane Building Company (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed on June 30, 2023). |
| 21.1 | List of Subsidiaries of AquaBounty Technologies, Inc. |
| 23.1 | Consent of Deloitte & Touche LLP |
| 31.1 | Certification of the Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. |
| 31.2 | Certification of the Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. |
| 32.1 | Certification of the Chief Executive Officer and Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. |
| 97.1 | Compensation Recovery Policy, Adopted November 1, 2023 |
| 101.INS | Inline XBRL instance document-the instance document does not appear in the Interactive Data File because XBRL tags are embedded within the Inline XBRL document. |
| 101.SCH | Inline XBRL taxonomy extension schema document. |
| 101.CAL | Inline XBRL taxonomy extension calculation linkbase document. |
| 101.DEF | Inline XBRL taxonomy extension definition linkbase document. |
| 101.LAB | Inline XBRL taxonomy label linkbase document. |
| 101.PRE | Inline XBRL taxonomy extension presentation linkbase document. |
| 104 | Cover Page Interactive Data File (formatted as Inline XBRL with applicable taxonomy extension information contained in exhibit 101). |

*Incorporated herein by reference as indicated.

# Schedules, exhibits, and similar supporting attachments or agreements to the Loan and Security Agreement are omitted pursuant to Item 601(b)(2) of Regulation S-K. The Registrant agrees to furnish a supplemental copy of any omitted schedule or similar attachment to the Securities and Exchange Commission upon request.

†Management contract or compensatory plan or arrangement.

^Certain schedules and exhibits to this agreement have been omitted pursuant to Item 601(a)(5) of Regulation S-K. A copy of any omitted schedule and/or exhibit will be furnished supplementally to the Securities and Exchange Commission upon request.

**The certification furnished in Exhibit 32.1 is deemed to be furnished and will not be deemed “filed” for purposes of Section 18 of the Exchange Act. Such certification will not be deemed to be incorporated by reference into any filings under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent that the Registrant specifically incorporates it by reference.

The registrant hereby undertakes to file with the Securities and Exchange Commission, upon request, copies of any constituent instruments defining the rights of holders of long-term debt of the registrant or its subsidiaries that have not been filed herewith because the amounts represented thereby are less than 10% of the total assets of the registrant and its subsidiaries on a consolidated basis.

## Item 16. Form 10-K Summary

Not applicable.

## Signatures

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

AQUABOUNTY TECHNOLOGIES, INC.

By: /s/ Sylvia A. Wulf
Sylvia A. Wulf
Chief Executive Officer and Board Chair

## Power of Attorney

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints David A. Frank and Angela M. Olsen, as his or her attorneys-in-fact, each with the power of substitution, for him or her in any and all capacities, to sign any amendment to this Annual Report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his or her substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Company and in the capacities and on the dates indicated below.

| Signature | Title | Date |
|---|---|---|
| /s/ Sylvia A. Wulf<br>Sylvia A. Wulf | Chief Executive Officer and Board Chair (Principal Executive Officer) | April 1, 2024 |
| /s/ David A. Frank<br>David A. Frank | Chief Financial Officer and Treasurer (Principal Financial Officer and Principal Accounting Officer) | April 1, 2024 |
| /s/ Ricardo Alvarez<br>Ricardo Alvarez | Lead Independent Director | April 1, 2024 |
| /s/ Erin Sharp<br>Erin Sharp | Director | April 1, 2024 |
| /s/ Gail Sharps Myers<br>Gail Sharps Myers | Director | April 1, 2024 |
| /s/ Christine St.Clare<br>Christine St.Clare | Director | April 1, 2024 |
| /s/ Rick Sterling<br>Rick Sterling | Director | April 1, 2024 |
| /s/ Michael Stern<br>Michael Stern | Director | April 1, 2024 |

# Report of Independent Registered Public Accounting Firm

**To the stockholders and the Board of Directors of AquaBounty Technologies, Inc.**

**Opinion on the Financial Statements**

We have audited the accompanying consolidated balance sheets of AquaBounty Technologies, Inc. and subsidiaries (the "Company") as of December 31, 2023 and 2022, the related consolidated statements of operations and comprehensive loss, changes in stockholders' equity, and cash flows, for the years then ended, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2023 and 2022, and the results of its operations and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

**Going Concern**

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company has incurred cumulative operating losses and negative cash flows from operations that raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

**Basis for Opinion**

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

**Critical Audit Matter**

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter, in any way, our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

**Inventory – Fish in Process – Refer to Notes 2 and 4 to the financial statements**

*Critical Audit Matter Description*

Fish in process inventory is measured at the lower of cost or net realizable value, where net realizable value is defined as the estimated market price, less the estimated cost of processing, packaging and transportation. The Company's determination of net realizable value of fish in process inventory requires management to make various estimates and assumptions related to the estimated biomass of fish, as well as the expected harvest yields, market price of biomass and costs of processing, packaging and transportation. Changes in these assumptions could have a significant impact on the net realizable value of fish in process inventory.

Given the determination of net realizable value requires management to make significant estimates and assumptions relating to expected harvest yields, market price and future costs, performing audit procedures to evaluate the reasonableness of such estimates and assumptions required a high degree of auditor judgment and an increased extent of effort.

*How the Critical Audit Matter Was Addressed in the Audit*

Our audit procedures related to fish in process inventory included the following, among others:

- We tested the design and implementation of the Company's inventory controls, including the review of the net realizable value estimate and assumptions and compilation of inventory biomass.
- We evaluated management's method for determining the net realizable value of fish in process inventory.
- We observed and tested the Company's physical inventory inspection, fish counting and fish weighing processes.
- We tested the completeness and accuracy of management's estimates and assumptions within the net realizable value calculation by comparing expected:
  - Processing, packaging and transportation costs to historical amounts.
  - Market price to historical sales prices and market benchmarks.
  - Yield to the Company's historical results and industry peer data.
- We tested the changes in fish in process biomass from a physical observation date to December 31, 2023.

/s/ Deloitte & Touche LLP

Baltimore, Maryland
April 1, 2024

We have served as the Company's auditor since 2021.

## AquaBounty Technologies, Inc.

## Consolidated Balance Sheets

| | as of December 31, | |
|---|---|---|
| | **2023** | **2022** |
| **Assets** | | |
| Current assets: | | |
| Cash and cash equivalents | $ **8,203,869** | $ 101,638,557 |
| Inventory | **1,733,603** | 2,276,592 |
| Prepaid expenses and other current assets | **1,700,273** | 2,133,583 |
| Total current assets | **11,637,745** | 106,048,732 |
| | | |
| Property, plant and equipment, net | **174,381,382** | 106,286,186 |
| Right of use assets, net | **281,104** | 222,856 |
| Intangible assets, net | **204,436** | 218,139 |
| Restricted cash | **1,000,000** | 1,000,000 |
| Other assets | **46,761** | 64,859 |
| Total assets | $ **187,551,428** | $ 213,840,772 |
| | | |
| **Liabilities and stockholders' equity** | | |
| Current liabilities: | | |
| Accounts payable and accrued liabilities | $ **12,991,819** | $ 12,000,592 |
| Accrued employee compensation | **754,621** | 1,021,740 |
| Current debt | **795,300** | 2,387,231 |
| Other current liabilities | **30,863** | 20,830 |
| Total current liabilities | **14,572,603** | 15,430,393 |
| | | |
| Long-term lease obligations | **250,241** | 203,227 |
| Long-term debt, net | **7,711,866** | 6,286,109 |
| Total liabilities | **22,534,710** | 21,919,729 |
| | | |
| Commitments and contingencies | | |
| | | |
| Stockholders' equity: | | |
| Common stock, $0.001 par value, 75,000,000 and 150,000,000 shares authorized at December 31, 2023 and 2022, respectively; 3,847,022 and 3,834,383 shares outstanding at December 31, 2023 and 2022, respectively | **3,847** | 3,834 |
| Additional paid-in capital | **385,998,213** | 385,455,961 |
| Accumulated other comprehensive loss | **(405,464)** | (516,775) |
| Accumulated deficit | **(220,579,878)** | (193,021,977) |
| Total stockholders' equity | **165,016,718** | 191,921,043 |
| | | |
| Total liabilities and stockholders' equity | $ **187,551,428** | $ 213,840,772 |

See accompanying notes to the consolidated financial statements.

## AquaBounty Technologies, Inc.

## Consolidated Statements of Operations and Comprehensive Loss

| | Years ended December 31, | |
|---|---|---|
| | **2023** | **2022** |
| **Revenues** | | |
| Product revenues | **$ 2,472,659** | $ 3,136,954 |
| | | |
| **Costs and expenses** | | |
| Product costs | **15,281,635** | 13,630,911 |
| Sales and marketing | **795,931** | 1,138,781 |
| Research and development | **703,823** | 903,981 |
| General and administrative | **13,007,869** | 9,786,819 |
| Total costs and expenses | **29,789,258** | 25,460,492 |
| | | |
| **Operating loss** | **(27,316,599)** | (22,323,538) |
| | | |
| **Other (expense) income** | | |
| Interest expense | **(303,967)** | (291,177) |
| Other income, net | **62,665** | 457,520 |
| Total other (expense) income | **(241,302)** | 166,343 |
| | | |
| **Net loss** | **$ (27,557,901)** | $ (22,157,195) |
| | | |
| **Other comprehensive income (loss):** | | |
| Foreign currency gain (loss) | **111,311** | (301,288) |
| Unrealized gains on marketable securities | **—** | 40,101 |
| Total other comprehensive income (loss) | **111,311** | (261,187) |
| | | |
| **Comprehensive loss** | **$ (27,446,590)** | $ (22,418,382) |
| | | |
| Basic and diluted net loss per share | **$ (7.17)** | $ (5.78) |
| Weighted average number of common shares - basic and diluted | **3,844,239** | 3,832,557 |

See accompanying notes to the consolidated financial statements.

## AquaBounty Technologies, Inc.

## Consolidated Statements of Changes in Stockholders' Equity

| | Common stock issued and outstanding | Par value | Additional paid-in capital | Accumulated other comprehensive loss | Accumulated deficit | Total |
|---|---|---|---|---|---|---|
| Balance at December 31, 2021 | 3,830,128 | $ 3,830 | $ 384,919,303 | $ (255,588) | $ (170,864,782) | $ 213,802,763 |
| Net loss | | | | | (22,157,195) | (22,157,195) |
| Other comprehensive loss | | | | (261,187) | | (261,187) |
| Exercise of options | 52 | — | 1,539 | | | 1,539 |
| Share-based compensation | 4,203 | 4 | 535,119 | | | 535,123 |
| Balance at December 31, 2022 | 3,834,383 | $ 3,834 | $ 385,455,961 | $ (516,775) | $ (193,021,977) | $ 191,921,043 |
| **Net loss** | | | | | **(27,557,901)** | **(27,557,901)** |
| **Other comprehensive income** | | | | **111,311** | | **111,311** |
| **Share-based compensation** | **12,639** | **13** | **542,252** | | | **542,265** |
| **Balance at December 31, 2023** | **3,847,022** | **$ 3,847** | **$ 385,998,213** | **$ (405,464)** | **$ (220,579,878)** | **$ 165,016,718** |

See accompanying notes to the consolidated financial statements.

# AquaBounty Technologies, Inc.

## Consolidated Statements of Cash Flows

| | Years Ended December 31, | |
|---|---|---|
| | **2023** | **2022** |
| **Operating activities** | | |
| Net loss | **$ (27,557,901)** | $ (22,157,195) |
| Adjustment to reconcile net loss to net cash used in operating activities: | | |
| Depreciation and amortization | **2,158,231** | 2,024,783 |
| Share-based compensation | **542,265** | 535,123 |
| Other non-cash charge | **16,604** | 22,983 |
| Changes in operating assets and liabilities: | | |
| Inventory | **546,847** | (1,027,650) |
| Prepaid expenses and other assets | **375,430** | (550,120) |
| Accounts payable and accrued liabilities | **(50,602)** | (1,905) |
| Accrued employee compensation | **(267,119)** | 147,151 |
| Net cash used in operating activities | **(24,236,245)** | (21,006,830) |
| **Investing activities** | | |
| Purchases of and deposits on property, plant and equipment | **(68,889,540)** | (67,476,327) |
| Maturities of marketable securities | **—** | 149,435,173 |
| Purchases of marketable securities | **—** | (47,621,291) |
| Other investing activities | **(3,263)** | 12,500 |
| Net cash (used in) provided by investing activities | **(68,892,803)** | 34,350,055 |
| **Financing activities** | | |
| Proceeds from issuance of debt | **417,673** | 476,228 |
| Repayment of term debt | **(726,140)** | (640,170) |
| Proceeds from the exercise of stock options and warrants | **—** | 1,538 |
| Net cash used in financing activities | **(308,467)** | (162,404) |
| Effect of exchange rate changes on cash, cash equivalents and restricted cash | **2,827** | 2,748 |
| Net change in cash, cash equivalents and restricted cash | **(93,434,688)** | 13,183,569 |
| Cash, cash equivalents and restricted cash at beginning of period | **102,638,557** | 89,454,988 |
| **Cash, cash equivalents and restricted cash at end of period** | **$ 9,203,869** | $ 102,638,557 |
| **Reconciliation of cash, cash equivalents and restricted cash reported in the consolidated balance sheet:** | | |
| Cash and cash equivalents | **$ 8,203,869** | $ 101,638,557 |
| Restricted cash | **1,000,000** | 1,000,000 |
| Total cash, cash equivalents and restricted cash | **$ 9,203,869** | $ 102,638,557 |
| **Supplemental disclosure of cash flow information and non-cash transactions:** | | |
| Interest paid in cash | **$ 289,138** | $ 274,562 |
| Property and equipment included in accounts payable and accrued liabilities | **$ 11,670,996** | $ 10,565,820 |

See accompanying notes to the consolidated financial statements.

# AquaBounty Technologies, Inc.
# Notes to the Consolidated Financial Statements
# for the years ended December 31, 2023 and 2022

## 1. Nature of business and organization

### Nature of business

AquaBounty Technologies, Inc. (the "Parent" and, together with its wholly owned subsidiaries, the "Company") was incorporated in December 1991 in the State of Delaware for the purpose of conducting research and development of the commercial viability of a group of proteins commonly known as antifreeze proteins. In 1996, the Parent obtained the exclusive licensing rights for a gene construct (transgene) used to create a breed of farm-raised Atlantic salmon that exhibit growth rates that are substantially faster than conventional salmon. In 2015, the Parent obtained regulatory approval from the U.S. Food and Drug Administration for the production and sale of its genetically engineered AquAdvantage salmon product ("GE Atlantic salmon") in the United States, and in 2016, the Parent obtained regulatory approval from Health Canada for the production and sale of its GE Atlantic salmon in Canada. In 2021, the Parent obtained regulatory approval from the National Biosafety Technical Commission for the sale of its GE Atlantic salmon in Brazil. In 2021, the Company began harvesting and selling its GE Atlantic salmon in the United States and Canada.

### Basis of presentation

The consolidated financial statements include the accounts of the Parent and its wholly owned subsidiaries. The entities are collectively referred to herein as the "Company." All inter-company transactions and balances have been eliminated upon consolidation.

On October 12, 2023, the stockholders of the Company approved a reverse stock split of the Company's common stock, and the Board of Directors approved a split ratio of 1-for-20. The reverse stock split was implemented on October 16, 2023. In conjunction with the reverse stock split, the number of shares of common stock authorized for issuance was reduced from 150 million to 75 million. All share and per share information, as well as other related information on equity instruments in the consolidated financial statements and accompanying notes, have been adjusted to reflect this change.

### Going Concern Uncertainty

Since inception, the Company has incurred cumulative net losses and negative cash flows from operations and expects that this will continue for the foreseeable future. As of December 31, 2023, the Company has $9.2 million in cash and cash equivalents, and restricted cash.

The Company's ability to continue as a going concern is dependent upon its ability to raise additional capital, and there can be no assurance that such capital will be available in sufficient amounts, on a timely basis, or on terms acceptable to the Company, or at all. This raises substantial doubt about the Company's ability to continue as a going concern within one year after the date that the accompanying consolidated financial statements are issued. The accompanying consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business and do not include any adjustments that might result from the outcome of this uncertainty. Until such time as the Company reaches profitability, it will require additional financing to fund its operations and execute its business plan.

## 2. Summary of significant accounting policies

### Use of estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities as of the date of the consolidated financial statements and the reported amounts of expenses during the reporting periods. Actual results could differ from those estimates.

### Comprehensive loss

The Company displays comprehensive loss and its components as part of its consolidated financial statements. Comprehensive loss consists of net loss and other comprehensive income (loss). Other comprehensive income (loss) includes foreign currency translation adjustments and unrealized gains (losses) on the Company's marketable securities.

**Foreign currency translation**

The functional currency of the Parent is the US Dollar. The functional currency of the Canadian Subsidiary is the Canadian Dollar (C$), and the functional currency of the US and Brazil Subsidiaries is the US Dollar. For the Canadian Subsidiary, assets and liabilities are translated at the exchange rates in effect at the balance sheet date, equity accounts are translated at the historical exchange rate, and the income statement accounts are translated at the average rate for each period during the year. Net translation gains or losses are adjusted directly to a separate component of other comprehensive income (loss) within stockholders' equity.

**Cash equivalents**

The Company considers all highly liquid investments with maturities of three months or less when purchased to be cash equivalents. Cash equivalents consist primarily of business savings accounts, certificates of deposit and money market accounts.

**Fair Value of Financial instruments**

The Company groups its financial instruments measured at fair value, if any, in three levels based on the markets in which the instruments are traded and the reliability of the assumptions used to determine fair value. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Financial instruments with readily available quoted prices or for which fair value can be measured from actively quoted prices generally will have a higher degree of market price observability and a lesser degree of judgement used in measuring fair value. The three levels of the fair value hierarchy are as follows:

Level 1: Inputs to the valuation methodology are quoted prices, unadjusted, for identical assets or liabilities in active markets.

Level 2: Inputs to the valuation methodology include quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in markets that are not active; or inputs derived principally from, or that can be corroborated by, observable market data by correlation or other means.

Level 3: Inputs to the valuation methodology are unobservable and significant to the fair value measurement. Level 3 assets and liabilities include financial instruments whose value is determined using discounted cash flow methodologies, as well as instruments for which the determination of fair value requires significant management judgement or estimation.

The carrying amounts reported in the consolidated balance sheets for prepaid expenses and other current assets and accounts payable approximate fair value based on the short-term maturity of these instruments. All of the Company's interest-bearing debt is at fixed rates, except for the loan with First Farmer's Bank and Trust, which has a rate reset in July 2025.

**Inventories**

Inventories are mainly comprised of feed, eggs, fry, fish in process and fish for sale. Fish in process inventory is a biological asset that is measured based on the estimated biomass of fish on hand and expected harvest yields. The Company has established a standard procedure to estimate the biomass of fish on hand using counting and sampling techniques. The Company measures inventory at the lower of cost or net realizable value ("NRV"), where NRV is defined as the estimated market price, less the estimated costs of processing, packaging and transportation. The Company considers fish that has been harvested and transported from its farm to be fish for sale.

**Intangible assets**

Definite lived intangible assets include patents and licenses. Patent costs consist primarily of legal and filing fees incurred to file patents on proprietary technology developed by the Company. Patent costs are amortized on a straight-line basis over 20 years beginning with the filing date of the applicable patent. License fees are capitalized and expensed over the term of the licensing agreement.

**Property, plant and equipment**

Property, plant and equipment are recorded at cost. The Company depreciates all asset classes over their estimated useful lives, as follows:

| | |
|---|---|
| Building | 20 - 25 years |
| Equipment | 5 - 20 years |
| Office furniture and equipment | 3 years |
| Leasehold improvements | shorter of asset life or lease term |
| Vehicles | 3 years |

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The Company commences depreciation on an asset when it is placed into service.

**Impairment of long-lived assets**

The Company reviews the carrying value of its long-lived assets, definite lived intangible assets, and property, plant and equipment when facts and circumstances suggest that they may be impaired. The carrying values of such assets are considered impaired when the estimated undiscounted cash flows from such assets are less than their carrying values. An impairment loss, if any, is recognized in the amount of the difference between the carrying amount and the fair value of such assets.

**Leases**

The Company leases certain facilities, property, and equipment under noncancelable operating leases. A determination is made if an arrangement is a lease at its inception, and leases with an initial term of 12 months or less are not recorded on the balance sheet. Lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. For operating leases, expense is recognized on a straight-line basis over the lease term.

**Revenue recognition**

The Company is comprised of one reporting segment and generates revenue from the sale of its products. Revenue is recognized when the customer takes physical control of the goods, in an amount that reflects the transaction price consideration that the Company expects to receive in exchange for the goods. Revenue excludes any sales tax collected and includes any estimate of future credits.

During the years ended December 31, 2023 and 2022, the Company recognized the following product revenue:

| | Year Ended December 31, 2022 | | |
|---|---|---|---|
| | U.S. | Canada | Total |
| GE Atlantic salmon | $ 2,518,495 | $ 394,478 | $ 2,912,973 |
| Non-GE Atlantic salmon eggs | - | 85,089 | 85,089 |
| Non-GE Atlantic salmon fry | - | 102,387 | 102,387 |
| Other revenue | - | 36,505 | 36,505 |
| Total Revenue | $ 2,518,495 | $ 618,459 | $ 3,136,954 |

| | Year Ended December 31, 2023 | | |
|---|---|---|---|
| | U.S. | Canada | Total |
| GE Atlantic salmon | **$ 2,331,352** | **$ -** | **$ 2,331,352** |
| Non-GE Atlantic salmon eggs | **-** | **730** | **730** |
| Non-GE Atlantic salmon fry | **-** | **123,381** | **123,381** |
| Other revenue | **-** | **17,196** | **17,196** |
| Total Revenue | **$ 2,331,352** | **$ 141,307** | **$ 2,472,659** |

During the years ended December 31, 2023 and 2022, the Company had the following customer concentration of revenue:

| | Years Ended December 31, | |
|---|---|---|
| | 2023 | 2022 |
| Customer A | **44%** | 36% |
| Customer B | **18%** | 17% |
| Customer C | **14%** | 15% |
| All other | **24%** | 32% |
| Total of all customers | **100%** | 100% |

**Income taxes**

The Company uses the liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are recorded for the expected future tax consequences of temporary differences between the financial reporting and income tax bases of assets and liabilities and are measured using the enacted tax rates and laws that are expected to be in effect when the differences reverse. A valuation allowance is established to reduce net deferred tax assets to the amount expected to be realized. The Company follows accounting guidance regarding the recognition, measurement, presentation and disclosure of uncertain tax positions in the financial statements. Tax positions taken or expected to be taken in the course of preparing the Company's tax returns are required to be evaluated to determine whether the tax positions are "more likely than not" to be upheld under regulatory review. The resulting tax impact of these tax positions is recognized in the financial statements based on the results of this evaluation. The Company did not recognize any tax liabilities associated with uncertain tax positions, nor has it recognized any interest or penalties related to unrecognized tax positions. The Company is not currently under exam and is no longer subject to federal and state tax examinations by tax authorities for years before 2020.

**Net loss per share**

Basic and diluted net loss per share available to common stockholders has been calculated by dividing net loss by the weighted average number of common shares outstanding during the year. Basic net loss per share is based solely on the number of common shares outstanding during the year. Fully diluted net loss per share includes the number of shares of common stock issuable upon the exercise of warrants and options with an exercise price less than the fair value of the common stock. Since the Company is reporting a net loss for all periods presented, all potential common shares are considered anti-dilutive and are excluded from the calculation of diluted net loss per share.

The following potentially dilutive securities have been excluded from the calculation of diluted net loss per share, as their effect is anti-dilutive:

| | Years Ended December 31, | |
|---|---|---|
| Weighted Average Outstanding | **2023** | **2022** |
| Stock options | **61,146** | 40,543 |
| Warrants | **917** | 20,929 |
| Unvested stock awards | **27,368** | 8,299 |

**Share-based compensation**

The Company measures and recognizes all share-based payment awards, including stock options and restricted share units made to employees and directors, based on estimated fair values. The fair value of a share-based payment award is estimated on the date of grant using an option pricing model. The value of the portion of the award that is ultimately expected to vest is recognized as an expense over the requisite service period in the Company's consolidated statement of operations. The Company uses the Black-Scholes option pricing model ("Black-Scholes") as its method of valuation. Non-employee share-based compensation is accounted for using Black-Scholes to determine the fair value of warrants or options awarded to non-employees with the fair value of such issuances expensed over the period of service.

**Recently Issued Accounting Standards**

Management does not expect any recently issued, but not yet effective, accounting standards to have a material effect on its results of operations or financial condition.

## 3. Risks and uncertainties

The Company is subject to risks and uncertainties common in the biotechnology and aquaculture industries. Such risks and uncertainties include, but are not limited to: (i) results from current and planned product development studies and trials; (ii) decisions made by the FDA or similar regulatory bodies in other countries with respect to approval and commercial sale of any of the Company's proposed products; (iii) the commercial acceptance of any products approved for sale and the Company's ability to produce, distribute, and sell for a profit any products approved for sale; (iv) the Company's ability to obtain the necessary patents and proprietary rights to effectively protect its technologies; and (v) the outcome of any collaborations or alliances entered into by the Company.

**Concentration of credit risk**

Financial instruments that potentially subject the Company to credit risk consist principally of cash, cash equivalents, and marketable securities. This risk is mitigated by the Company's policy of maintaining all balances with highly rated financial institutions, investing in cash equivalents with maturities of less than 90 days, and investing in marketable securities with maturities of less than 180 days. The Company's cash balances may at times exceed insurance limitations. The Company holds cash balances in bank accounts located in Canada to fund its local operations. These amounts are subject to foreign currency exchange risk, which is minimized by the

Company's policy to limit the balances held in these accounts. Balances in Canadian bank accounts at December 31, 2023 and 2022 totaled $227 thousand and $518 thousand, respectively.

**4. Inventory**

Major classifications of inventory are summarized as follows for December 31, 2023 and 2022:

| | December 31, 2023 | December 31, 2022 |
|---|---|---|
| Feed | **$ 167,136** | $ 366,957 |
| Eggs and fry | **147,998** | 22,140 |
| Fish in process | **1,418,469** | 1,869,387 |
| Fish for sale | **—** | 18,108 |
| Inventory | **$ 1,733,603** | $ 2,276,592 |

**5. Prepaid and other current assets**

Major classifications of prepaid and current assets are summarized as follows for December 31, 2023 and 2022:

| | December 31, 2023 | December 31, 2022 |
|---|---|---|
| Receivables | $ **1,216,585** | **$** 337,154 |
| Prepaid insurance | **388,049** | 272,958 |
| Prepaid supplies | **85,988** | 55,007 |
| Prepaid professional services | **-** | 1,446,819 |
| Deposits and other | **9,651** | 21,645 |
| Total prepaid expenses and other current assets | $ **1,700,273** | **$** 2,133,583 |

Certain prepaid professional services, consisting of $2.1 million in legal expenditures and fees related to a bond financing transaction for the Ohio farm site were expensed during the year ended December 31, 2023, as the transaction was postponed for an undetermined amount of time.

**6. Property, plant and equipment**

Major classifications of property, plant and equipment are summarized as follows for December 31, 2023 and 2022:

| | December 31, 2023 | December 31, 2022 |
|---|---|---|
| Land | **$ 2,974,685** | $ 2,968,561 |
| Building and improvements | **15,804,739** | 15,535,904 |
| Construction in process | **147,755,336** | 78,806,762 |
| Equipment | **18,285,038** | 17,259,301 |
| Office furniture and equipment | **231,758** | 258,972 |
| Vehicles | **108,120** | 106,074 |
| Total property and equipment | **$ 185,159,676** | $ 114,935,574 |
| Less accumulated depreciation and amortization | **(10,778,294)** | (8,649,388) |
| Property, plant and equipment, net | **$ 174,381,382** | $ 106,286,186 |

Depreciation and amortization expense for 2023 and 2022 on property, plant and equipment was $2.1 million and $2.0 million, respectively.

As of December 31, 2023, construction in process included $141.8 million, $4.3 million and $1.6 million for construction related to the Ohio, Rollo Bay and Indiana farm sites, respectively. An additional $16.7 million has been contractually committed for these farm sites as of December 31, 2023.

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**7. Debt**

The current terms and conditions of long-term debt outstanding as of December 31, 2023 and 2022, are as follows:

| | Interest rate | Monthly repayment | Maturity date | December 31, 2023 | December 31, 2022 |
|---|---|---|---|---|---|
| ACOA AIF Grant | 0% | Royalties | - | **$ 2,166,289** | $ 2,119,476 |
| ACOA term loan #1 | 0% | C$3,120 | Feb 2027 | **89,460** | 115,158 |
| ACOA term loan #2 | 0% | C$4,630 | Sep 2029 | **240,946** | 276,743 |
| ACOA term loan #3 | 0% | C$6,945 | Dec 2025 | **125,712** | 184,500 |
| Kubota Canada Ltd. | 0% | C$1,142 | Jan 2025 | **11,202** | 21,077 |
| DFO term loan | 0% | C$14,896 | Jan 2034 | **1,305,193** | 854,885 |
| Finance PEI term loan | 6.5% | C$19,913 | Dec 2028 | **1,713,837** | 1,752,547 |
| First Farmers Bank & Trust term loan | 5.4% | $56,832 | Oct 2028 | **2,891,763** | 3,401,019 |
| Total debt | | | | **$ 8,544,402** | $ 8,725,405 |
| less: debt issuance costs | | | | **(37,236)** | (52,065) |
| less: current portion | | | | **(795,300)** | (2,387,231) |
| Long-term debt, net | | | | **$ 7,711,866** | $ 6,286,109 |

Principal payments due on the long-term debt are as follows:

| | Total |
|---|---|
| 2024 | $ 808,114 |
| 2025 | 913,964 |
| 2026 | 887,032 |
| 2027 | 902,419 |
| 2028 | 2,136,774 |
| Thereafter | 2,896,099 |
| Total | $ 8,544,402 |

**Atlantic Canada Opportunities Agency ("ACOA")**

ACOA is a Canadian government agency that provides funding to support the development of businesses and promote employment in the Atlantic region of Canada.

**ACOA Atlantic Innovation Fund ("AIF") Grant**

In January 2009, the Canadian Subsidiary was awarded an AIF grant from ACOA to provide a contribution towards the funding of a research and development project. Contributions under the grant were made through 2014, and no further funds are available. Amounts claimed by the Canadian Subsidiary must be repaid in the form of a 10% royalty on any products that are commercialized out of this research project until the loan is fully repaid. Revenue from the sale of the Company's GE Atlantic salmon is not subject to the royalty, and the Company does not expect to commercialize products that would be subject to the royalty in the next five years.

**ACOA term loans**

In February 2016, the Canadian Subsidiary executed an agreement with ACOA to partially finance the renovations to the Rollo Bay farm site. All available funding under the agreement was disbursed through May 2017, and no further amounts are available. The loan is being repaid over a 108-month term at a zero percent interest rate.

In November 2018, the Canadian Subsidiary executed a second agreement with ACOA to partially finance the renovations to the Rollo Bay site. All available funding under the agreement was disbursed through March 2019, and no further amounts are available. The loan is being repaid over a 108-month term with a zero percent interest rate.

In July 2021, the Canadian Subsidiary entered into a contribution agreement with ACOA under its REGI-Business Scale-up and Productivity program to provide funding assistance for the Rollo Bay farm site, and on August 20, 2021, the Canadian Subsidiary received C$250,000 ($200,075). All funds received are being repaid over a 36-month term commencing January 2023 at a zero percent interest rate.

**Kubota**

In January 2018, the Canadian Subsidiary financed the purchase of equipment through a loan with Kubota Canada Ltd. The total amount is being repaid in monthly installments. The loan is secured by the underlying equipment.

**Department of Fisheries and Oceans ("DFO")**

DFO is a department of the government of Canada responsible for safeguarding its waters and managing its fisheries, oceans and freshwater resources. DFO supports economic growth in the marine and fisheries sectors, and innovation in areas such as aquaculture and biotechnology.

In September 2020, the Canadian Subsidiary entered into a Contribution Agreement with DFO's Atlantic Fisheries Fund, whereby it is eligible to receive up to C$1.9 million ($1.4 million) to finance new equipment for its Rollo Bay farm (the "DFO Term Loan"). As of December 31, 2022, the Canadian Subsidiary had borrowed C$1.2 million ($883 thousand) on the facility, and during 2023, the Canadian Subsidiary borrowed an additional C$572 thousand ($418 thousand) under the DFO Term Loan. Borrowings are interest free and monthly repayments commence in August 2024, with maturity in January 2034.

The Company recognized interest expense of $304 thousand and $291 thousand for the years ended December 31, 2023 and 2022, respectively, on its interest-bearing debt.

**Finance PEI ("FPEI")**

FPEI is a corporation of the Ministry of Economic Development and Tourism for Prince Edward Island, Canada, and administers business financing programs for the provincial government.

In August 2016, the Canadian Subsidiary obtained a loan from FPEI to partially finance the purchase of the assets of the former Atlantic Sea Smolt plant in Rollo Bay West on Prince Edward Island.

In 2018, the Canadian Subsidiary obtained a new loan from FPEI, which incorporated the existing loan and provided C$2.0 million ($1.5 million) of additional funds. All funds have been dispersed and the loan is being repaid over a 147-month term ending with a balloon payment, which was extended for five additional years to December 2028. The loan has an interest rate of 6.5% and is collateralized by a mortgage executed by the Canadian Subsidiary, which conveys a first security interest in all of its current and acquired assets. The loan is guaranteed by the Parent.

**First Farmers Bank & Trust ("FFBT")**

On July 31, 2020, the Company's Indiana Subsidiary obtained a $4.0 million loan from First Farmers Bank and Trust. Net proceeds were $3.9 million after deducting $90 thousand in loan costs. The loan bears interest at a rate of 5.375% for the first five years. On July 31, 2025, the interest rate resets to the then U.S. Treasury 5-year maturities rate plus 5% and remains fixed at that rate through maturity on October 1, 2028. The note required interest only payments for the first 13 months, followed by monthly principal and interest payments of approximately $57 thousand through maturity. The Company must comply with certain financial and non-financial covenants and provide certification of compliance quarterly. During 2022, FFBT removed two of the loan's negative covenants and the Company increased its required restrictive cash balance amount from $500 thousand to $1.0 million. This amount is reflected as restricted cash on the balance sheet. At December 31, 2023, the Company was in compliance with its loan covenants. The loan is also subject to certain prepayment penalties and is secured by the assets of the Indiana subsidiary and a guarantee by the Parent.

## 8. Stockholders' equity

The Company's stockholders have authorized 80 million shares of stock, of which 5 million are authorized as preferred stock and 75 million as common stock.

**Common stock**

The holders of the common stock are entitled to one vote for each share held at all meetings of stockholders. Dividends and distribution of assets of the Company in the event of liquidation are subject to the preferential rights of any outstanding preferred shares.

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**Warrants**

All outstanding warrants as of December 31, 2022 expired unexercised during the year ended December 31, 2023.

**Share-based compensation**

In 2006, the Company established the 2006 Equity Incentive Plan (as amended, the "2006 Plan"). The 2006 Plan provided for the issuance of incentive stock options to employees of the Company and non-qualified stock options and awards of restricted stock to directors, officers, employees, and consultants of the Company. In accordance with its original terms, the 2006 Plan terminated on March 18, 2016. All outstanding awards under the 2006 Plan will continue until their individual termination dates.

In March 2016, the Company's Board of Directors adopted the AquaBounty Technologies, Inc. 2016 Equity Incentive Plan (as amended, the "2016 Plan") to replace the 2006 Plan. The 2016 Plan provides for the issuance of incentive stock options, non-qualified stock options, and awards of restricted and direct stock purchases to directors, officers, employees, and consultants of the Company. Total common shares authorized under the 2016 Plan are 215,000, of which 68,280 shares are reserved for future issuance as of December 31, 2023.

*Restricted stock*

The Company's restricted stock activity under the 2016 Plan is summarized as follows:

| | Shares | Weighted average grant date fair value |
|---|---|---|
| Unvested at December 31, 2022 | 9,974 | $ 37.27 |
| Granted | 39,286 | 10.58 |
| Vested | (13,584) | 25.40 |
| Forfeited | (1,536) | 23.20 |
| Unvested at December 31, 2023 | 34,140 | $ 11.91 |

During 2023 and 2022, the Company expensed $360 thousand and $358 thousand, respectively, related to restricted stock awards. At December 31, 2023, the balance of unearned share-based compensation to be expensed in future periods related to the restricted stock awards is $215 thousand. The period over which the unearned share-based compensation is expected to be earned is approximately 1.4 years.

*Stock options*

The Company's option activity under the 2006 Plan and the 2016 Plan is summarized as follows:

| | Number of options | Weighted average exercise price |
|---|---|---|
| Outstanding at December 31, 2022 | 42,035 | $ 71.69 |
| Issued | 36,654 | 7.20 |
| Exercised | — | — |
| Forfeited | (2,315) | 10.13 |
| Expired | (705) | 146.20 |
| Outstanding at December 31, 2023 | 75,669 | $ 41.64 |
| Exercisable at December 31, 2023 | 46,397 | $ 61.32 |

Options issued to employees, members of the Board of Directors, and non-employees generally vest over a period of one year to three years and are exercisable for a term of 10 years from the date of issuance.

The weighted average fair value of stock options granted during 2023 was $5.02 (2022: $22.20). There were no options exercised in 2023 (2022: 52). The total intrinsic value of options exercised in 2022 was $142. As of December 31, 2023 and 2022, the total intrinsic value of exercisable and outstanding options was $0.

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The following table summarizes information about options outstanding and exercisable as of December 31, 2023:

| Weighted average exercise price of outstanding options | Number of options outstanding | Weighted average remaining estimated life (in years) | Number of options exercisable |
|---|---|---|---|
| < $10.00 | 34,604 | 9.5 | 8,966 |
| $20.00 - $50.00 | 35,380 | 6.1 | 31,847 |
| $100.00 - $200.00 | 2,369 | 6.4 | 2,268 |
| $200.00 - $500.00 | 3,316 | 2.2 | 3,316 |
| | 75,669 | | 46,397 |

The fair values of stock option grants to employees and members of the Board of Directors during 2023 and 2022 were measured on the date of grant using Black-Scholes, with the following weighted average assumptions:

| | **2023** | 2022 |
|---|---|---|
| Expected volatility | **86%** | 92%-103% |
| Risk free interest rate | **4.01%** | 1.71%-3.95% |
| Expected dividend yield | **0.0%** | 0.0% |
| Expected life (in years) | **5** | 5 |

The risk-free interest rate is estimated using the Federal Funds interest rate for a period that is commensurate with the expected term of the awards. The expected dividend yield is zero because the Company has never paid a dividend and does not expect to do so for the foreseeable future. The expected life was based on a number of factors including historical experience, vesting provisions, exercise price relative to market price, and expected volatility. The Company believes that all groups of employees demonstrate similar exercise and post-vesting termination behavior and, therefore, does not stratify employees into multiple groups and forfeitures are recognized as they occur. The expected volatility was estimated using the Company's historical price volatility over a period that is commensurate with the expected term of the awards.

Total share-based compensation on stock-option grants amounted to $182 thousand and $177 thousand for the years ended December 31, 2023 and 2022, respectively. As of December 31, 2023, the balance of unearned share-based compensation to be expensed in future periods related to unvested share-based awards is $219 thousand. The period over which the unearned share-based compensation is expected to be earned is 1.4 years.

*Share-based compensation*

The following table summarizes share-based compensation costs recognized in the Company's Consolidated Statements of Operations and Comprehensive Loss for the years ended December 31, 2023 and 2022:

| | **2023** | 2022 |
|---|---|---|
| Sales and marketing | **19,325** | 15,956 |
| General and administrative | **522,940** | 519,167 |
| Total share-based compensation | **$ 542,265** | $ 535,123 |

**9. Income taxes**

The components of loss before income taxes for the years ended December 31, 2023 and 2022 are presented below:

| | **2023** | 2022 |
|---|---|---|
| Domestic | **$ (23,732,417)** | $ (20,673,855) |
| Foreign | **(3,825,484)** | (1,483,340) |
| Loss before income taxes | **$ (27,557,901)** | $ (22,157,195) |

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We have made no provision for foreign or domestic income taxes on the cumulative unremitted earnings of our foreign subsidiaries. We intend to permanently reinvest all foreign earnings and have no intention to repatriate foreign earnings for the foreseeable future.

Income taxes computed using the federal statutory income tax rate differs from the Company's effective tax rate for the years ended December 31, 2023 and 2022 primarily due to the following:

| | 2023 | 2022 |
|---|---|---|
| Income tax benefit | **$ (5,787,160)** | $ (4,653,011) |
| State and provincial income tax | **(2,074,037)** | (1,031,963) |
| Permanent differences | **48,028** | (60,904) |
| US-Foreign rate differential | **232,963** | (65,058) |
| Other | **(1,013,689)** | 483,873 |
| | **$ (8,593,895)** | $ (5,327,063) |
| Change in valuation allowance | **8,593,895** | 5,327,063 |
| Total income tax | **$ -** | $ - |

As of December 31, 2023, the Company had domestic net operating loss carryforwards of approximately $122 million, after consideration of limitations pursuant to section 382, to offset future federal taxable income, which begin to expire in 2033. Of this amount, the Company had domestic net operating loss carryforwards of approximately $93 million, which can be carried forward indefinitely. The future utilization of certain historic net operating loss and tax credit carryforwards, however, is subject to annual use limitations based on the change in stock ownership rules of Internal Revenue Code Sections 382 and 383. The Company experienced a change in ownership under these rules during 2012 and revised its calculation of net operating loss carryforwards based on annual limitation rules. The Company also had foreign research and development loss carryforwards totaling approximately $18 million and foreign research and development expense tax credits of approximately $3 million as of December 31, 2023, which expire at various times commencing in 2024. Since the Company has incurred only losses from inception and there is uncertainty related to the ultimate use of the loss carryforwards and tax credits, a valuation allowance has been recognized to offset the Company's deferred tax assets, and no benefit for income taxes has been recorded.

The IRS released guidance which modified the procedures for taxpayers that incur specified research or experimental (R&E) expenditures to change their method of accounting to comply with the new capitalization and amortization rules provided in Section 174, as revised by the Tax Cuts and Jobs Act. The Section 174 rules require taxpayers to capitalize and amortize specified R&E expenditures over a period of five years (for domestic research) or 15 years (for foreign research), beginning with the midpoint of the taxable year in which the expenses are paid or incurred. The impact defers the tax benefit of R&E expenditures.

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Significant components of the Company's deferred tax assets and liabilities are as follows:

| | | 2023 | | 2022 |
|---|---|---|---|---|
| Deferred tax assets: | | | | |
| Net operating loss carryforwards | **$** | **37,551,366** | $ | 28,188,265 |
| Foreign research and development tax credit carryforwards | | **2,611,184** | | 2,454,756 |
| Intangibles | | **2,366,372** | | 2,630,122 |
| R&D costs | | **843,947** | | 696,326 |
| Other | | **470,847** | | 332,473 |
| Total deferred tax assets | **$** | **43,843,716** | $ | 34,301,942 |
| Valuation allowance | | **(42,646,455)** | | (34,052,560) |
| Net deferred tax assets | **$** | **1,197,261** | $ | 249,382 |
| Deferred tax liabilities: | | | | |
| Property and equipment | | **(1,197,261)** | | (249,382) |
| Total deferred tax liabilities | **$** | **(1,197,261)** | $ | (249,382) |
| Net deferred tax liabilities | **$** | **-** | $ | - |

**10. Commitments and contingencies**

The Company recognizes and discloses commitments when it enters into executed contractual obligations with other parties. The Company accrues contingent liabilities when it is probable that future expenditures will be made and such expenditures can be reasonably estimated.

The Company is subject to legal proceedings and claims arising in the normal course of business. Management believes that final disposition of any such matters existing at December 31, 2023, will not have a material adverse effect on the Company's financial position or results of operations.

**Lease commitments**

The table below summarizes the Company's lease obligations as of December 31, 2023 and 2022:

| | | December 31, 2023 | | December 31, 2022 |
|---|---|---|---|---|
| Operating lease right-of-use assets, net | **$** | **281,104** | $ | 222,856 |
| Right-of-use assets obtained for new lease liabilities | | **84,143** | | - |
| | | | | |
| Other current liabilities | | **30,863** | | 20,830 |
| Operating lease liabilities | | **250,241** | | 203,227 |
| Total operating lease liabilities | **$** | **281,104** | $ | 224,057 |

| | | December 31, 2023 | | December 31, 2022 |
|---|---|---|---|---|
| Operating lease expense | **$** | **41,798** | $ | 85,718 |
| Short-term lease expense | | **48,968** | | - |
| Lease payments included in operating cash flows | | **92,857** | | 84,080 |
| | | | | |
| Weighted average remaining lease term | | **22.5 years** | | 25.4 years |
| Weighted average discount rate | | **8%** | | 8% |

**AquaBounty Technologies, Inc.**
**Notes to the Consolidated Financial Statements**
**for the years ended December 31, 2023 and 2022**

Remaining payments under leases are as follows as of December 31, 2023:

| Year | | Amount |
|---|---|---|
| 2024 | $ | 48,054 |
| 2025 | | 49,801 |
| 2026 | | 40,373 |
| 2027 | | 19,102 |
| 2028 | | 19,676 |
| Thereafter | | 544,549 |
| Total lease payments | | 721,555 |
| Less: imputed interest | | (440,451) |
| Total operational lease liabilities | $ | 281,104 |

**11. Retirement plan**

The Company has a savings and retirement plan for its US employees that qualifies under Section 401(k) of the Internal Revenue Code. The plan covers substantially all employees and provides for voluntary contributions by participating employees up to the maximum contribution allowed under the Internal Revenue Code. Contributions by the Company can be made, as determined by the Board of Directors, provided the amount does not exceed the maximum permitted by the Internal Revenue Code. Company contributions made and expensed in operations in connection with the plan during the years ended December 31, 2023 and 2022, amounted to $113 thousand and $94 thousand, respectively.

The Company also has a Registered Retirement Savings Plan for its Canadian employees. Company contributions made and expensed in operations in connection with the plan during the years ended December 31, 2023 and 2022, amounted to $45 thousand and $44 thousand, respectively.

**12. Subsequent events**

On February 14, 2024, the Company announced that it had made the decision to sell its Indiana farm as part of its strategy to increase liquidity.

**EXHIBIT 21.1**

**List of Subsidiaries of AquaBounty Technologies, Inc.**

The following is a list of subsidiaries of AquaBounty Technologies, Inc., the names under which such subsidiaries do business, and the state or country in which each was organized:

| Name | Jurisdiction of Organization |
|---|---|
| AquaBounty Brasil Participações Ltda. | Brazil |
| AQUA Bounty Canada Inc. | Canada |
| Aqua Bounty Farms Chile Limitada | Chile |
| AquaBounty Farms, Inc. | Delaware |
| AquaBounty Farms Indiana LLC | Delaware |
| AquaBounty Farms Ohio LLC | Delaware |

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in Registration Statement Nos. 333-258561 and 333-252264 on Form S-3 and Registration Statement Nos. 333-272448 and 333-238207 on Form S-8 of our report dated April 1, 2024, relating to the financial statements of AquaBounty Technologies, Inc. appearing in this Annual Report on Form 10-K for the year ended December 31, 2023.

/s/ Deloitte & Touche LLP

Baltimore, Maryland
April 1, 2024

**EXHIBIT 31.1**

**Certification**

I, Sylvia Wulf, certify that:

1. I have reviewed this Annual Report on Form 10-K of AquaBounty Technologies, Inc;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations, and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) designed such internal controls over financial reporting, or caused such internal controls over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's Board of Directors (or persons performing the equivalent functions):

(a) all significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize, and report financial information; and

(b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: April 1, 2024

/s/ Sylvia Wulf
Chief Executive Officer

**EXHIBIT 31.2**

**Certification**

I, David A. Frank, certify that:

1. I have reviewed this Annual Report on Form 10-K of AquaBounty Technologies, Inc;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations, and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) designed such internal controls over financial reporting, or caused such internal controls over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's Board of Directors (or persons performing the equivalent functions):

(a) all significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize, and report financial information; and

(b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

| | |
|---|---|
| Date: April 1, 2024 | /s/ David A. Frank |
| | Chief Financial Officer |

**The following certification is being made to the Securities and Exchange Commission solely for purposes of Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. 1350). This certification is not to be deemed a part of the Report, nor is it deemed to be "filed" for any purpose whatsoever.**

In accordance with the requirements of Section 906 of the Sarbanes-Oxley Act of 2002 (18 USC 1350), each of the undersigned hereby certifies, to his knowledge, that:

(i) this Annual Report on Form 10-K for the year ended December 31, 2023, which this statement accompanies, fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)); and

(ii) the information contained in this Annual Report on Form 10-K for the year ended December 31, 2023, fairly presents, in all material respects, the financial condition and results of operations of AquaBounty Technologies, Inc.

Dated as of this 1st day of April 2024.

| | |
|---|---|
| /s/ Sylvia Wulf | /s/ David A. Frank |
| Sylvia Wulf | David A. Frank |
| Chief Executive Officer | Chief Financial Officer |

Exhibit 97.1

AquaBounty

**AQUABOUNTY TECHNOLOGIES, INC.**

**COMPENSATION RECOVERY POLICY**

Adopted as of November 1, 2023

AquaBounty Technologies, Inc., a Delaware corporation (together with its subsidiaries, the "Company"), has adopted a Compensation Recovery Policy (this "Policy") as described below.

1. **Overview**

The Policy sets forth the circumstances and procedures under which the Company shall recover Erroneously Awarded Compensation from Covered Persons (as defined below) in accordance with rules issued by the United States Securities and Exchange Commission (the "SEC") under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and the Nasdaq Stock Market. Capitalized terms used and not otherwise defined herein shall have the meanings given in Section 3 below.

2. **Compensation Recovery Requirement**

In the event the Company is required to prepare a Financial Restatement, the Company shall recover reasonably promptly all Erroneously Awarded Compensation with respect to such Financial Restatement.

3. **Definitions**

a. "Applicable Recovery Period" means the three completed fiscal years immediately preceding the Restatement Date for a Financial Restatement. In addition, in the event the Company has changed its fiscal year: (i) any transition period of less than nine months occurring within or immediately following such three completed fiscal years shall also be part of such Applicable Recovery Period and (ii) any transition period of nine to 12 months will be deemed to be a completed fiscal year.

b. "Applicable Rules" means any rules or regulations adopted by the Exchange pursuant to Rule 10D-1 under the Exchange Act and any applicable rules or regulations adopted by the SEC pursuant to Section 10D of the Exchange Act.

c. "Board" means the Board of Directors of the Company.

d. "Committee" means the Compensation & Human Capital Committee of the Board or, in the absence of such committee, a majority of independent directors serving on the Board.

e. "Covered Person" means any Executive Officer and any other person designated by the Board or the Committee as being subject to this Policy. A person's status as a Covered Person with respect to Erroneously Awarded Compensation shall be determined as of the time of receipt of such Erroneously Awarded Compensation regardless of the person's current role or status with the Company (e.g., if a person began service as an Executive Officer after the beginning of an Applicable Recovery Period, that person would not be considered a Covered Person with respect to Erroneously Awarded Compensation received before the person began service as an Executive Officer, but would be considered a Covered Person with respect to Erroneously Awarded Compensation received after the person began service as an Executive Officer where such person served as an Executive Officer at any time during the performance period for such Erroneously Awarded Compensation).

f. "Effective Date" means October 2, 2023.

g. "Erroneously Awarded Compensation" means the amount of any Incentive-Based Compensation received by a Covered Person on or after the Effective Date and during the Applicable Recovery Period that exceeds the amount that otherwise would have been received by the Covered Person had such compensation been determined based on the restated amounts in a Financial Restatement, computed without regard to any taxes paid. Calculation of Erroneously Awarded Compensation with respect to Incentive-Based Compensation based on stock price or total shareholder return, where the amount of Erroneously Awarded Compensation is not subject to mathematical recalculation directly from the information in a Financial Restatement, shall be based on a reasonable estimate of the effect of the Financial Restatement on the stock price or total shareholder return upon which the Incentive-Based Compensation was received, and the Company shall maintain documentation of the determination of such reasonable estimate and provide such documentation to the Exchange in accordance with the Applicable Rules. Incentive-Based Compensation is deemed received, earned or vested when the Financial Reporting Measure is attained, not when the actual payment, grant or vesting occurs.

h. "Exchange" means the Nasdaq Stock Market LLC.

i. An "Executive Officer" means any person who served the Company in any of the following roles at any time during the performance period applicable to Incentive-

Based Compensation and received Incentive-Based Compensation after beginning service in any such role (regardless of whether such Incentive-Based Compensation was received during or after such person's service in such role): the president, principal financial officer, principal accounting officer (or if there is no such accounting officer the controller), any vice president in charge of a principal business unit, division or function (such as sales, administration or finance), any other officer who performs a policy making function or any other person who performs similar policy making functions for the Company. Executive officers of parents or subsidiaries of the Company may be deemed executive officers of the Company if they perform such policy making functions for the Company.

j. "Financial Reporting Measures" mean measures that are determined and presented in accordance with the accounting principles used in preparing the Company's financial statements, any measures that are derived wholly or in part from such measures (including, for example, a non-GAAP financial measure), and stock price and total shareholder return.

k. "Incentive-Based Compensation" means any compensation provided, directly or indirectly, by the Company or any of its subsidiaries that is granted, earned or vested based, in whole or in part, upon the attainment of a Financial Reporting Measure and any other equity-based compensation provided by the Company or any of its subsidiaries, including, without limitation, stock options, restricted stock awards, restricted stock units and stock appreciation rights.

l. A "Financial Restatement" means a restatement of previously issued financial statements of the Company due to the material noncompliance of the Company with any financial reporting requirement under the securities laws, including any required restatement to correct an error in previously-issued financial statements that is material to the previously-issued financial statements or that would result in a material misstatement if the error were corrected in the current period or left uncorrected in the current period.

m. "Restatement Date" means, with respect to a Financial Restatement, the earlier to occur of: (i) the date the Board[8] concludes, or reasonably should have concluded, that the Company is required to prepare the Financial Restatement or (ii) the date a court, regulator or other legally authorized body directs the Company to prepare the Financial Restatement.

4. **Exception to Compensation Recovery Requirement**

The Company may elect not to recover Erroneously Awarded Compensation pursuant to this Policy if the Committee determines that recovery would be impracticable, and one or more of the following conditions, together with any further requirements set forth in the Applicable Rules, are met: (i) the direct expense paid to a third party, including outside legal counsel, to assist in enforcing this Policy would exceed the amount to be recovered, and the Company has made a reasonable attempt to recover such Erroneously Awarded Compensation; or (ii recovery would likely cause an otherwise tax-qualified retirement plan to fail to be so qualified under applicable regulations.

5. **Discretionary Compensation Recovery Circumstances**

In addition to (and without limiting) the provisions of paragraph 2 above, in the event the Company is required to prepare a Financial Restatement after the Effective Date, the Company will use reasonable efforts to recover from any current or former employee of the Company who is not a Covered Person (each a "Participating Employee") and who received Incentive-Based Compensation from the Company during the three completed fiscal years immediately preceding the date on which the Board or the Audit Committee determines that the Company is required to prepare a Financial Restatement, the amount that exceeds what would have been paid to the Participating Employee under the Financial Restatement; provided that, this paragraph 5 will apply only to the extent the Board (or a duly established committee thereof), in its sole discretion, determines that the Participating Employee committed any act or omission that materially contributed to the circumstances requiring the Financial Restatement [and such act or omission involved any of the following: (i) misconduct, wrongdoing or a violation of any of the Company's rules or of any applicable legal or regulatory requirements in the course of the Participating Employee's employment by the Company; or (ii) a breach of a fiduciary duty to the Company or its stockholders by the Participating Employee.

6. **Tax Considerations**

To the extent that, pursuant to this Policy, the Company is entitled to recover any Erroneously Awarded Compensation that is received by a Covered Person, the gross amount received (i.e., the amount the Covered Person received, or was entitled to receive, before any deductions for tax withholding or other payments) shall be returned by the Covered Person.

7. **Method of Compensation Recovery**

The Committee shall determine, in its sole discretion, the method for recovering Erroneously Awarded Compensation hereunder, which may include, without limitation, any one or more of the following:

a. requiring reimbursement of cash Incentive-Based Compensation previously paid;

b. seeking recovery of any gain realized on the vesting, exercise, settlement, sale, transfer or other disposition of any equity-based awards;

c. cancelling or rescinding some or all outstanding vested or unvested equity-based awards;

d. adjusting or withholding from unpaid compensation or other set-off;

e. cancelling or offsetting against planned future grants of equity-based awards; and/or

f. any other method permitted by applicable law or contract.

Notwithstanding the foregoing, a Covered Person will be deemed to have satisfied such person's obligation to return Erroneously Awarded Compensation to the Company if such Erroneously Awarded Compensation is returned in the exact same form in which it was received; provided that equity withheld to satisfy tax obligations will be deemed to have been received in cash in an amount equal to the tax withholding payment made.

8. **Policy Interpretation**

This Policy shall be interpreted in a manner that is consistent with the Applicable Rules and any other applicable law. The Committee shall take into consideration any applicable interpretations and guidance of the SEC in interpreting this Policy, including, for example, in determining whether a financial restatement qualifies as a Financial Restatement hereunder. To the extent the Applicable Rules require recovery of Incentive-Based Compensation in additional circumstances besides those specified above, nothing in this Policy shall be deemed to limit or restrict the right or obligation of the Company to recover Incentive-Based Compensation to the fullest extent required by the Applicable Rules.

9. **Policy Administration**

This Policy shall be administered by the Committee; provided, however, that the Board shall have exclusive authority to authorize the Company to prepare a Financial Restatement. In doing so, the Board may rely on a recommendation of the Audit Committee of the Board. The Committee shall have such powers and authorities related to the administration of this Policy as are consistent with the governing documents of the Company and applicable law. The Committee shall have full power and authority to take, or direct the taking of, all actions and to make all determinations required or provided for under this Policy and shall have full power and authority to take, or direct the taking of, all such other actions and make all such other determinations not inconsistent with the specific terms and provisions of this Policy that the Committee deems to be necessary or appropriate to the administration of this Policy. The interpretation and construction by the Committee of any provision of this Policy and all determinations made by the Committee under this policy shall be final, binding and conclusive.

10. **Compensation Recovery Repayments not Subject to Indemnification**

Notwithstanding anything to the contrary set forth in any agreement with, or the organizational documents of, the Company or any of its subsidiaries, Covered Persons are not entitled to indemnification for Erroneously Awarded Compensation or for any losses arising out of or in any way related to Erroneously Awarded Compensation recovered under this Policy.