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As filed with the Securities and Exchange Commission on November 8, 2017.

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

AquaBounty Technologies, Inc.
(Exact name of registrant as specified in its charter)

Delaware	0273	04-3156167
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

2 Mill & Main Place, Suite 395
Maynard, Massachusetts 01754
(978) 648-6000
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

David A. Frank
Chief Financial Officer
AquaBounty Technologies, Inc.
2 Mill & Main Place, Suite 395
Maynard, Massachusetts 01754
Telephone: (978) 648-6000
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Jocelyn M. Arel, Esq. Michael J. Minahan, Esq. Goodwin Procter LLP 100 Northern Avenue Boston, Massachusetts 02210 Telephone: (617) 570-1000	Christopher Martin General Counsel AquaBounty Technologies, Inc. 2 Mill & Main Place, Suite 395 Maynard, Massachusetts 01754 Telephone: (978) 648-6000	Robert F. Charron, Esq. Ellenoff Grossman & Schole LLP 1345 Avenue of the Americas New York, New York 10105 Telephone: (212) 370-1300

Approximate date of commencement of proposed sale to public: As soon as practicable after this Registration Statement is declared effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933.

Emerging growth company ☒

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, 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 7(a)(2)(B) of the Securities Act. ☐

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

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒ (Do not check if a smaller reporting company)	Smaller reporting company	☐

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price(1)	Amount of Registration Fee
Common Stock, $0.001 par value per share	$20,000,000	$2,490

(1) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) of the Securities Act of 1933, as amended.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Preliminary Prospectus (Subject to Completion)
Dated November 8, 2017

Shares

COMMON STOCK

We are offering shares of our common stock.

Our common stock is listed on the Nasdaq Capital Market under the symbol "AQB". On November 3, 2017, the closing sale price of our common stock on the Nasdaq Capital Market was $5.18 per share.

We are an "emerging growth company" under applicable federal securities laws and will be subject to reduced public company reporting requirements for this prospectus and future filings.

Our business and investment in our common stock involves risks. See "Risk Factors" beginning on page 14 of this prospectus.

PRICE $ A SHARE

	Price to Public	*Underwriting Discounts and Commissions (1)(2)*	*Proceeds to AquaBounty*
Per Share	$	$	$
Total	$	$	$

(1) *The underwriter will receive no underwriting discount in respect of shares sold to a certain existing shareholder or its affiliates, if such shareholder or affiliates participate in this offering.*
(2) *We have also agreed to reimburse certain expenses of the underwriter. See "Underwriting" beginning on page 93 for additional information regarding underwriting compensation.*

We have granted the underwriter an option to purchase up to an additional shares of common stock (up to 15% of the shares issued in the offering) from us at the public offering price, less the underwriting discounts and commissions, within 30 days from the date of this prospectus to cover overallotments, if any.

Intrexon Corporation, our majority stockholder, has indicated an interest in purchasing a minimum of $7.5 million of shares of our common stock in this offering at the public offering price, if the aggregate proceeds to us from this offering are $20 million. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters could determine to sell fewer shares to Intrexon than it indicated an interest in purchasing or sell no shares to Intrexon, and Intrexon could determine to purchase fewer shares than it indicated an interest in purchasing or purchase no shares in this offering.

Neither the Securities and Exchange Commission nor any state securities regulators have not approved or disapproved these securities, or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The underwriter expects to deliver the shares of common stock to purchasers on or about 2017.

H.C. WAINWRIGHT & CO.

, 2017

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You should rely only on the information contained in this prospectus or contained in any free writing prospectus filed with the Securities and Exchange Commission. Neither we nor the underwriter have authorized any person to provide you with any information or make any representations other than those contained in this prospectus or in any free writing prospectus filed with the Securities and Exchange Commission and that we authorize to be distributed to you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We are offering to sell, and seeking offers to buy, shares of common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, unless the information specifically indicates that another date applies, regardless of the time of delivery of this prospectus or of any sale of the common stock. Our business, financial condition, results of operations and prospects may have changed since such date.

For investors outside of the United States: Neither we nor the underwriter have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and to observe any restrictions relating to, this offering and the distribution of this prospectus outside of the United States.

PROSPECTUS SUMMARY

This summary highlights selected information that is presented in greater detail elsewhere in this prospectus. This summary does not contain all of the information you should consider before investing in our common stock. You should read this entire prospectus carefully, including the sections titled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and the related notes included elsewhere in this prospectus, before making an investment decision. Unless the context otherwise requires, the terms "AquaBounty," "the Company," "we," and "our" in this prospectus refer to AquaBounty Technologies, Inc. and its consolidated subsidiaries.

Overview

We use genetic modification and other molecular biologic techniques to improve the quality and yield of fish stocks and help the aquaculture industry meet growing consumer demand. Since 2008, we have been focused on the regulatory approval of our AquAdvantage Salmon product. Since that time, we completed the New Animal Drug Application ("NADA") process with the U.S. Food and Drug Administration ("FDA") for AquAdvantage Salmon, and, on November 19, 2015, we received approval of the NADA for the production, sale and consumption of AquAdvantage Salmon.

On May 19, 2016, we received approval from Health Canada, the department of the government of Canada with responsibility for national public health, for the production, sale, and consumption of AquAdvantage Salmon as a novel food and feed in Canada. Previously, we had received approval from Environment Canada, the agency of the government of Canada with responsibility for regulating environmental policies and issues, which decided that AquAdvantage Salmon was not harmful to the environment or human health when produced in contained facilities. Consequently, we have now received approvals for our product from what we believe are two of the most respected and rigorous regulatory agencies in the world.

We believe that receipt of FDA approval for AquAdvantage Salmon not only represents a major milestone for us, but also a significant pioneering development in introducing transgenic animals into the food chain. Although genetically modified crops have been accepted by consumers in the United States and South America for some time, AquAdvantage Salmon is the first genetically modified animal to be approved for human consumption. We intend to deploy AquAdvantage Salmon in land-based, contained, freshwater aquaculture systems, which would allow inland fish farms to be established close to major demand centers in a profitable and environmentally sustainable manner. The technology underlying AquAdvantage Salmon offers the potential to reintroduce salmon aquaculture in the United States, which imported more than $2.6 billion of Atlantic salmon in 2016 according to the U.S. Department of Commerce (the "DOC").

We have incurred significant losses since our inception. We expect to continue to incur significant losses for the foreseeable future, and we may never achieve or maintain profitability. We have made our first sales of AquAdvantage Salmon from our farm site in Panama and expect modest revenues during 2017 and 2018, with more significant revenues expected once our facilities in Indiana and on Prince Edward Island are in full production in the second half of 2019. For the fiscal years ended December 31, 2016 and 2015, we experienced operating losses of $8.5 million and $7.0 million, respectively.

Management is pursuing several paths to revenue generation that follow different timelines, including production of our fish at our existing farm sites, purchase or construction of additional production facilities in North America, and licensing or partnership arrangements. Additionally, management is pursuing regulatory approval for AquAdvantage Salmon in Brazil, Argentina, China and Chile.

The Aquaculture Industry

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 Research and Markets, an industry research organization, the global aquaculture market is valued at $176.5 billion in 2017 and is expected to grow at an annual rate of 4.5% to reach a market size of $219.4 billion by the year 2022. We believe that the aquaculture industry-and in particular salmon farming-is poised for significant additional growth in the coming years as the global population expands.

Salmon Farming

Atlantic salmon farming is a major industry in the cold-water countries of the northern and southern hemispheres. According to the United Nations Food and Agriculture Organization ("FAO"), Atlantic salmon aquaculture production grew by approximately 6.7% annually between 2000 and 2015. Total production volume of farmed Atlantic salmon during 2015 was just under 2.4 million metric tons with a value over $11.9 billion. Industry analyst Kontali Analyse expects increases in demand to drive continued production growth through 2020, although at a lower annual rate of approximately 3.0%, primarily due to supply constraints.

Below is a break-down by major producing country for the time period 2010 through 2015, which is the last year for which data is readily available.

Worldwide Atlantic Salmon Production by Country (in metric tons)

	F.A.O.					
Country	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Canada	101,544	110,328	116,101	97,629	86,347	121,926
United States	19,535	18,595	19,295	18,866	18,719	18,719
Chile	123,233	264,349	399,678	492,329	644,459	608,546
United Kingdom	154,633	158,310	162,547	163,518	179,397	172,143
Ireland	15,691	12,196	12,440	9,125	9,368	13,116
Norway	939,536	1,064,868	1,232,095	1,168,324	1,258,356	1,303,346
Faroe Islands	45,391	60,473	76,564	75,821	86,454	80,600
Australia	31,807	36,662	43,982	42,776	41,591	48,330
All other	5,682	9,607	11,696	25,549	23,376	14,850
WW Volume (mt)	1,437,052	1,735,388	2,074,398	2,093,937	2,348,067	2,381,576

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Pricing

According to the DOC, which tracks the volume and value of Atlantic salmon imports into the United States, from 2011 to 2016 the average wholesale price of Atlantic salmon imported into the country increased from $3.81 per pound ($8.39/kilogram) to $4.30 per pound ($9.48/kilogram).

The daily spot (farm-gate or wholesale market) price for Atlantic salmon is very volatile due to the species' long production cycle, which typically ranges between two and three years, and its short shelf life, which typically ranges between two and three weeks. Farmed salmon is typically sold as fresh and thus must be consumed within this timeframe. Consequently, the available supply is very inelastic over the short term, while demand can be very elastic due to price, season, or market size.

Major Producers

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, and their primary country of operation, include the following companies: Marine Harvest (Norway), Leroy Seafood Group ASA (Norway), Cermaq ASA (Norway), SalMar ASA (Norway), Empresas AquaChile S.A. (Chile), and Cooke Aquaculture Inc. (Canada).

U.S. Atlantic Salmon Market

According to the DOC, in 2016 the United States imported a record 619 million pounds (279 thousand metric tons) of Atlantic salmon with an aggregate market value of approximately $2.66 billion, or $4.30 per pound. The DOC also reported that over 75% of the total quantity of Atlantic salmon imports into the United States in 2016 originated from Chile and Canada. 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 the FAO, a total of only 41 million pounds of farmed Atlantic salmon was produced in the United States in 2015 representing only 6.3% of the total farmed Atlantic salmon supplied.

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 DOC, during the period from 2007 to 2012, annual seafood consumption in the United States ranged between 14 and 16 pounds per capita, significantly behind consumption of poultry (80 to 85 pounds), beef (57 to 65 pounds), and pork (46 to 50 pounds). In comparison, according to SeaFood Business magazine, average seafood consumption throughout Europe was 48.5 pounds per capita in 2012. In 2016 average seafood consumption in the US was 14.9 lbs. according to the National Fisheries Institute and the National Oceanic and Atmospheric Administration.

Perception of Genetically Modified Atlantic Salmon

Though Atlantic salmon is the second most consumed seafood in the United States, activist groups opposing genetic modifications of organisms have pressured a number of retail food outlets and grocery chains to publicly state that they will not carry genetically modified Atlantic 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 wholesale marketplace. To date, large wholesalers have not followed the example of these retailers, and we believe that there will be sufficient demand from smaller retailers, wholesalers, and institutional seafood buyers to absorb our projected production. We believe that FDA approval reinforces the message that AquAdvantage Salmon is a safe and nutritious seafood product that is equivalent to conventional farmed Atlantic salmon. This belief is based in part on the results of a 2014 survey released by the International Food Information Council, titled “Consumer Perceptions of Food Technology,” which indicated that 59% of consumers are “somewhat” or “very” likely to buy genetically engineered seafood if the FDA deems it safe.

There are surveys that have been cited by various non-governmental organizations (“NGOs”) that indicate that consumers are reluctant to purchase genetically modified food and that they would like to see labeling in order to avoid it. Internally generated data has shown that, although AquAdvantage Salmon exhibit an accelerated growth rate in early development stages, they do not grow to a larger end size than conventional Atlantic salmon. Consumer acceptance could be adversely affected if AquAdvantage Salmon were found or believed to grow to a larger final size than traditional Atlantic salmon. In addition, our regulatory burdens could also increase.

In response to these perceptions, we plan to educate consumers on the benefits of AquAdvantage Salmon versus conventional Atlantic salmon, including 25% better 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 and reduced exposure of the fish to environmental toxins due to use of land-based aquaculture systems, and reduced reliance on chemotherapeutics due to improved biosecurity.

Atlantic Salmon Disease Impact

An area of concern with current Atlantic salmon farming production is the environmental impact and the cost of disease management associated with those operations. 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 infected, the cost of lost or reduced harvests.

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 vaccines and health management practices to mitigate its impact. Though primarily occurring in traditional sea-cage farming environments, ISA can also be introduced into populations that are in land-based, self-contained facilities. In November 2009, certain fish from our land-based hatchery on Prince Edward Island tested positive for ISA. We notified the Canadian Department of Fisheries and Oceans ("DFO") following discovery of the virus, which was diagnosed as a strain with low pathogenicity and of unknown origin. We conducted an extensive screening program of all fish in the facility, destroying any fish that tested positive for ISA.

Subsequent tests conducted by DFO of fish in the facility began in March 2010 and indicated that the virus had been eliminated from the facility. We enacted improvements in biosecurity and facility operation, and the facility regained its disease-free status from DFO after four consecutive tests indicated no presence of the virus. The fish health status of the facility continues to be monitored by the Canadian Food Inspection Agency. The facility has not had any reportable disease outbreaks since the isolated incident in 2009.

Sea lice are marine parasites that occur naturally and attach to the skin of Atlantic salmon. Though a few lice on a large salmon present no problem, the presence of significant numbers can adversely impact the health and aesthetic appearance of the fish. The cost of managing sea lice in sea-cage farming environments can be significant.

The closed, contained, land-based production systems, using technology referred to as recirculating aquaculture systems ("RAS"), proposed for the grow-out of AquAdvantage Salmon are less susceptible, though not immune, to the same disease-related pressures 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 will allow the AquAdvantage Salmon 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.

In contrast, sea cage, or conventional aquaculture fish, are housed in large 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 is a universally accepted fact in human and animal health. The presence of disease agents in these uncontrolled water currents could result in infection and spread of infection within the captive population. The risks and outcomes of conventional, open sea-cage systems are well established, 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. Furthermore, the use of antibiotics, vaccines, and other pharmacological agents is similarly well documented in conventional systems, presenting a risk to the environment and also to the consumers of treated fish.

Further, stocking RAS facilities with disease-free eggs results in a much higher degree of biosecurity and protection from disease. We expect that production and economic losses due to disease will be significantly less in the closed, land-based culture systems proposed for the production of AquAdvantage Salmon, because of greater control over environmental conditions and superior biosecurity than in traditional Atlantic salmon production systems.

Restrictions on Atlantic Salmon Farming

Environmental concerns have led certain states to impose legislative and regulatory restrictions or bans on the farming of Atlantic salmon. This could reduce the number of potential sites available to us for production farms in the United States. Nevertheless, we expect that many states will offer excellent potential sites for AquAdvantage Salmon production systems.

Our Product

Our product, AquAdvantage Salmon, is a genetically modified Atlantic salmon that can grow to marketable size in about half the time of traditional farmed Atlantic salmon. 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, an edible marine fish, more consistent levels of growth hormone are released, which accelerates the early stages of the salmon's development. Based on internally generated data, we have determined that the AquAdvantage Salmon do not reach a larger final size than their traditional counterparts. However, by accelerating growth in the early stages of rearing, these fish can reach a marketable size sooner. In the case of Atlantic salmon, this can reduce farming time from 28 to 36 months to 18 to 20 months.

This accelerated growth has several advantages, both economic and environmental. The faster life cycle, from birth to harvesting, of AquAdvantage Salmon as compared to conventional salmon would allow it to be produced more economically in contained inland systems. Although this would require greater capital investment than the sea cage approach, we believe that the higher costs would be offset by more efficient growth, 25% better feed conversion, reduced exposure to environmental threats, and more effective control of disease. In addition, with a facility located nearer to the major food markets, we believe there would be savings on transportation of the harvested stock, a reduced carbon footprint, and an improved ability to get fresh product to market faster.

Plan of Operation

Our core business is to develop and market superior products to improve productivity in aquaculture. Our first product is the AquAdvantage Salmon, which received FDA and Health Canada approval as the first genetically modified animal for human consumption as food. Our business plan contemplates that we will initially establish two production facilities to prove the economic benefit and consumer acceptance for our product. We have begun construction of a 250 metric ton production unit in Rollo Bay, Prince Edward Island, which will be operational in 2018. We have also acquired an existing facility in Albany, Indiana, which is currently undergoing upgrades to

increase its annual production capacity to 1200 metric tons. Both of these facilities must be approved by the FDA prior to their initial stocking with AquAdvantage Salmon, but we anticipate both to be operational in 2018 with a first harvest of commercial production in late 2019.

Once these farm sites reach full production operation, we intend to explore additional channels to commercialize the product. Such efforts may involve producing AquAdvantage Salmon eggs for commercial production, licensing the technology to salmon growers, and/or continuing to grow out the salmon in our own land-based facilities.

In order to scale up our egg production capabilities, we have begun construction on a new broodstock facility at our farm site in Rollo Bay. Once completed and at full capacity, this facility will be capable of producing over five million AquAdvantage Salmon eggs annually.

We intend to continue investing in research and development. We anticipate that our research and development expenditures will increase as we continue to develop our other AquAdvantage fish products and initiate new research projects under the Exclusive Channel Collaboration Agreement that we entered into in February 2013 with Intrexon Corporation (the "ECC"). See the section of this prospectus titled "Certain Relationships and Related Party Transactions–Exclusive Channel Collaboration Agreement." The timeline for development projects will depend on many factors, but could extend beyond ten to fifteen years, taking into account the time needed for development, regulatory approval, and pre-marketing activities.

Any additions to headcount in our research and production activities will depend on the number of development activities we undertake and the success of our commercialization efforts for AquAdvantage Salmon. We expect to increase our headcount in administration at our corporate headquarters as we begin to commercialize our product.

Our Competitive Strengths

We believe the following key competitive strengths are core to our ability to develop genetic modification and other molecular biologic techniques in order to improve the quality and yield of fish stocks and help the aquaculture industry meet growing consumer demand:

- Over 25 years of experience developing and breeding AquAdvantage Salmon.
- Successful regulatory review and approval of AquAdvantage Salmon by two of the most respected and rigorous regulatory agencies in the world.
- Pipeline of additional products in development, including AquAdvantage Trout.
- Strong support of our majority shareholder.

Our Strategy

Our goal is to utilize molecular biology and genetics to introduce new aquaculture products in several countries around the world, capturing market share with products that improve efficiency of production and sustainability. Key elements of our strategy include:

- Prove the economic benefit and consumer acceptance of AquAdvantage Salmon.
- Gain approval for AquAdvantage Salmon in additional markets.
- Seek partnerships and licensing arrangements to leverage our investment.
- Introduce new products and grow our technology lead.

To advance our strategy, we have progressed on the following activities:

- We established production farm sites in Indiana and Rollo Bay.
- We initiated construction of a broodstock facility in Rollo Bay for year-round egg production to stock our production facilities.
- We received authorization for export of AquAdvantage Salmon from Panama and are seeking approval for local sale and consumption.
- We initiated field trials in Argentina and Brazil, the first step in seeking approval of our AquAdvantage Salmon in those countries.
- We received approval of our application to conduct field trials in China.
- We signed a cooperative agreement with a non-governmental agency in South America for joint participation in an application for the approval of AquAdvantage Salmon.

Risks Related to Our Business and Industry

Our business, financial condition, results of operations and prospects are subject to numerous risks. These risks, uncertainties and other factors include, but are not limited to:

- our limited operating history and track record of operating losses;
- our cash position and ability to raise additional capital to finance our activities;
- the anticipated benefits and characteristics of our AquAdvantage Salmon product;
- the ability to secure any necessary regulatory approvals to commercialize any products;
- the uncertainty of achieving the business plan, future revenue and operating results;
- developments concerning our research projects;
- our ability to successfully enter new markets or develop additional products;
- competition from existing technologies and products or new technologies and products that may emerge;
- actual or anticipated variations in our operating results;
- market conditions in our industry;
- our ability to protect our intellectual property and other proprietary rights and technologies;
- our ability to adapt to changes in laws or regulations and policies;
- the rate and degree of market acceptance of any products developed through the application of genetic engineering, including genetically modified fish;
- our ability to retain and recruit key personnel;
- the ability of our majority shareholder, Intrexon Corporation (“Intrexon”) to control us;
- the success of any of our future acquisitions or investments;
- international business risks and exchange rate fluctuations;
- the possible volatility of our stock price; and
- our estimates regarding expenses, future revenue, capital requirements and needs for additional financing.

Corporate Information

We were formed under the laws of the State of Delaware on December 17, 1991. Our principal executive offices are located at 2 Mill & Main Place, Suite 395, Maynard, Massachusetts 01754. Our telephone number is (978) 648-6000. We maintain a website at www.aquabounty.com. The reference to our website is intended to be an inactive textual reference only. The information contained on, or that can be accessed through, our website is not a part of this prospectus. On January 19, 2017, our common stock began trading on the Nasdaq Capital Market under the symbol "AQB". Prior to our listing on the Nasdaq Capital Market we were listed on the Alternative Investment Market ("AIM"), the London Stock Exchange's international market for smaller growing companies, since 2006, initially under the symbol "ABTX" and, commencing in 2014, under the symbol "ABTU." For the period from January 19, 2017 to May 31, 2017, we were dual listed on both the Nasdaq Capital Market and AIM. Effective June 1, 2017, we voluntarily delisted our common stock from AIM.

"AquAdvantage," "Aqua Bounty" and certain other marks are our registered trademarks in the United States and several other jurisdictions. This prospectus contains additional trade names, trademarks, and service marks of other companies, and such tradenames, trademarks and service marks are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus may be referred to without the ® and ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto. We do not intend our use or display of other companies' trade names, trademarks, or service marks to imply a relationship with, or endorsement or sponsorship of us by, these other companies.

Emerging Growth Company Status

We are an "emerging growth company," as defined in Section 2(a) of the Securities Act, as amended by the Jumpstart Our Business Startups Act (the "JOBS Act") enacted on April 5, 2012. For as long as we are an "emerging growth company," we may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not "emerging growth companies." These include, but are not limited to, not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act of 2002 (the "Sarbanes-Oxley Act"); an exemption from the adoption of new or revised financial accounting standards until they would apply to private companies; an exemption from compliance with any new requirements adopted by the Public Company Accounting Oversight Board (the "PCAOB"), that require mandatory audit firm rotation or a supplement to the auditors' report in which the auditor would be required to provide additional information about the audit and the financial statements of the issuer; reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements; and exemptions from the requirements of holding advisory "say-on-pay" votes on executive compensation and shareholder advisory votes on golden parachute compensation not previously approved.

Section 107 of the JOBS Act provides that an "emerging growth company" can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. In other words, an "emerging growth company" can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to take advantage of this extended transition period. Our financial statements may therefore not be comparable to those of companies that comply with such new or revised accounting standards. Section 107 of the JOBS Act provides that our decision not to opt out of the extended transition period for complying with new or revised accounting standards is irrevocable.

We may take advantage of these exemptions for up to five years or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company upon the earliest to occur of

(1) the last day of the fiscal year in which we have more than $1.0 billion in annual revenue; (2) the date we qualify as a "large accelerated filer," with at least $700.0 million of equity securities held by non-affiliates; (3) the issuance, in any three-year period, by our company of more than $1.0 billion in non-convertible debt securities; and (4) the last day of the fiscal year following the fifth anniversary of the date of the first sale of our common stock pursuant to an effective registration statement filed under the Securities Act.

THE OFFERING

Issuer	AquaBounty Technologies, Inc.
Common stock offered by us	shares.
Underwriter's option to purchase additional shares	We have granted the underwriter a 30-day option to purchase an additional shares from us.
Ordinary shares outstanding after this offering	shares.
Use of proceeds	We estimate that the net proceeds from the sale of shares of our common stock that we are selling in this offering will be approximately $ million (or approximately $ million if the underwriter's option to purchase additional shares in this offering is exercised in full), based upon an assumed public offering price of $ per share, the closing sale price of our common stock on the Nasdaq Capital Market on , 2017, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We currently intend to use the net proceeds of this offering to complete construction and renovations of our existing facilities in Rollo Bay and Indiana, for working capital and other general corporate purposes. We may also use a portion of the net proceeds for acquisitions of complementary businesses, technologies or other assets, although we do not currently have any agreements, commitments or understandings with respect to any such acquisitions. See the section of this prospectus titled "Use of Proceeds" for additional information.
Risk factors	See "Risk Factors" for a discussion of factors you should carefully consider before deciding to invest in our common stock.
The Nasdaq Capital Market trading symbol	"AQB"

Intrexon, our majority stockholder, has indicated an interest in purchasing a minimum of $7.5 million of shares of our common stock in this offering at the public offering price, if the aggregate proceeds to us from this offering are $20 million. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters could determine to sell fewer shares to Intrexon than it indicated an interest in purchasing or sell no shares to Intrexon, and Intrexon could determine to purchase fewer shares than it indicated an interest in purchasing or purchase no shares in this offering.

The number of shares of common stock to be outstanding after this offering is based on 8,895,094 shares of common stock outstanding as of October 31, 2017 and excludes:

- 227,203 shares of common stock issuable upon the exercise of stock options outstanding as of October 31, 2017 with a weighted-average exercise price of $9.39 per share under our 2006 Equity Incentive Plan (the "2006 Plan"), and our 2016 Equity Incentive Plan (the "2016 Plan");

- 397,500 shares of common stock reserved for future issuance under our 2016 Plan, as more fully described in the section of this prospectus titled "Executive Compensation—Employee Benefit Plans."

Except as otherwise indicated, the information in this prospectus reflects or assumes the following:

- no exercise of options outstanding as October 31, 2017;
- no exercise by the underwriter of its option to purchase up to an additional shares of our common stock in this offering; and
- a 1-for-30 reverse stock split of our common stock effected on January 5, 2017.

SUMMARY CONSOLIDATED FINANCIAL DATA

We have derived the summary consolidated statements of operations data for the years ended December 31, 2015 and 2016, and the consolidated balance sheet data as of December 31, 2016, have been derived from our audited consolidated financial statements included elsewhere in this prospectus. The summary consolidated statement of operations data for the nine months ended September 30, 2016 and 2017 and the summary condensed consolidated balance sheet data as of summary consolidated balance sheet data as of September 30, 2017 have been derived from our unaudited financial statements for such period, included elsewhere in this prospectus. In our opinion, these unaudited consolidated financial statements have been prepared on a basis consistent with our audited consolidated financial statements and contain all adjustments, consisting only of normal and recurring adjustments, necessary for a fair presentation of such consolidated financial data. Our historical results are not necessarily indicative of the results that may be expected in the future. The following summary consolidated financial data should be read in conjunction with the sections of this prospectus titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Selected Financial and Other Data" and our consolidated financial statements and related notes beginning on page F-1.

	Nine Months Ended September 30,		Fiscal Years Ended December 31,		
	2017	2016	2016	2015	2014
(in thousands, except share data)	(unaudited)				
Statement of Operations Data:					
Revenues					
Product revenues	$ 53	$ —	$ —	$ —	$ —
Costs and expenses:					
Product costs	51	—	—	—	—
Sales and marketing	607	650	860	994	729
Research and development (2)	2,517	2,706	3,430	3,338	3,213
General and administrative	3,453	2,428	3,775	2,697	3,193
Total costs and expenses	6,628	5,784	8,065	7,029	7,135
Operating loss	(6,575)	(5,784)	(8,065)	(7,029)	(7,135)
Other income (expense):					
Interest and other income (expense), net	(20)	(241)	(406)	(3)	8
Total other income (expense)	(20)	(241)	(406)	(3)	8
Net loss	$ (6,595)	$ (6,025)	$ (8,471)	$ (7,032)	$ (7,127)
Other comprehensive income:					
Foreign currency translation gain (loss)	43	(86)	(60)	229	111
Total other comprehensive income (loss)	43	(86)	(60)	229	111
Comprehensive loss	$ (6,552)	$ (6,111)	$ (8,531)	$ (6,803)	$ (7,016)
Basic and diluted net loss per share (1)	$ (0.76)	$ (1.15)	$ (1.60)	$ (1.40)	$ (1.52)
Weighted average number of common shares—basic and diluted (1)	8,731,178	5,249,776	5,303,113	5,037,367	4,679,737

	As of September 30, 2017		As of December 31, 2016	
	Actual	As Adjusted(3)	Actual	As Adjusted(3)
	(unaudited)			
Balance Sheet Data:				
Cash and CD's	$ 4,731	$	$3,335	$
Total assets	$25,296	$	$5,709	$
Debt	$ 3,115	$	$2,663	$
Stockholders' equity (deficit)	$20,578	$	$2,028	$

(1) The basic and diluted net loss per share and weighted average number of common shares used in the net loss per share calculation have been adjusted to reflect the 1-for-30 reverse stock split effected January 2017.

(2) For all years presented, we reclassified the costs of our field trials and Panama farm site from sales and marketing to research and development.

(3) The as adjusted balance sheet data reflects the receipt by us of proceeds from the sale of shares of common stock by us in this offering, based on an assumed public offering price of $ per share, the closing price of our common stock on the Nasdaq Capital Market on , 2017, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

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 prospectus, 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.

Risks Relating to our Business

We have a history of net losses and will likely incur future losses, at least during the next five years, and we may not achieve or maintain profitability.

Although we were established in 1991, we did not start to develop our current product portfolio until 1996. In the period since incorporation to September 30, 2017, we have incurred net losses of approximately $105.9 million. These losses reflect our personnel, research and development, and marketing costs. We are constructing a 250 metric ton annual capacity production facility in Rollo Bay and in 2017 we acquired a facility in Albany, Indiana which is undergoing renovations to increase its annual capacity to 1,200 metric tons. Modest revenues are expected from our Panama farm during 2017 and 2018, with more significant revenues expected in 2019 and 2020 once our new facilities are in full production. However, our ability to realize revenues and the timing thereof are not certain, and achieving revenues does not assure that we will become profitable.

We will need substantial additional capital in the future in order to fund our business.

We do not expect significant sales until 2020, at the earliest, and to date we have not generated any profit and expect to incur losses for the foreseeable future and may never become profitable. Therefore, based on our current business plan, we anticipate a need to raise further funds. Any issuance of shares of our common stock could have an effect of depressing the market price of shares of our common stock through dilution of earnings per share or otherwise.

The amount and timing of the expenditures needed to achieve our development and commercialization programs will depend on numerous factors, some of which are outside our control. Changes in our plans could result in the need for additional funds. The primary factor impacting the amount and timing of any additional expenditure is the timing of the stocking of our two new production facilities in Rollo Bay and Indiana, which are dependent upon the completion of construction and renovation activities at the sites and the approval from the Food and Drug Administration (“FDA”) to operate the sites with AquAdvantage Salmon. Until these two sites become operational and reach full capacity, we will have only modest revenues from our Panama site to cover operational losses, which were $8.5 million and $7.0 million in 2016 and 2015, respectively.

Following the completion of the first harvests from our two new production facilities, we plan to evaluate additional commercialization alternatives for our product through the channel we determine to be most advantageous to the Company. Such efforts may involve producing AquAdvantage Salmon eggs for commercial production, licensing the technology to salmon growers, and/or continuing to grow-out the salmon in our own land-based facilities. If we elect to grow-out the fish ourselves, we would need to invest in the construction or purchase of additional land based recirculating aquaculture system facilities. These facilities have estimated construction costs of $17 million for each 1,000 metric tons of output.

There can be no assurance that additional funds will be available on a timely basis, on favorable 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.

Our ability to generate revenue to support our operations depends on obtaining additional regulatory approvals for AquAdvantage Salmon, the receipt of which is uncertain, and the maintenance of existing approvals.

As a genetically modified animal for human consumption, AquAdvantage 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 facility in Panama. FDA approvals will be needed for each additional facility we plan to bring on line. 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 unduly 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.

We will be required to continue to comply with FDA regulations.

Even with the approval of the New Animal Drug Application ("NADA") for AquAdvantage Salmon, 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. 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.

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

Our technologies involve the use of genetically modified organisms. 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 genetic modifications 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 modified Atlantic salmon. 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 modified organisms has received negative publicity, which has aroused public debate. This adverse publicity could lead to greater regulation and trade restrictions on imports of genetically altered products. 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 modified organisms 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 modified products, as well as application of pressure to consumer retail outlets seeking a commitment not to carry genetically modified Atlantic salmon. Consumer acceptance could also be adversely affected if AquAdvantage Salmon were found, or believed, to grow to a larger final size than traditional Atlantic salmon. We may not be able to overcome the negative consumer perceptions that these organizations have instilled against our products.

We may be sued by non-governmental organizations and others who are opposed to the development or commercialization of genetically modified organisms.

There are many organizations in the United States and elsewhere that are fundamentally opposed to the development of genetically modified organisms. These groups have a history of bringing legal action against companies attempting to bring new biotechnology products to market. On January 16, 2014, an application was filed by two non-governmental organizations ("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 AquAdvantage 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.

In the United States, a coalition of NGOs filed a complaint on March 30, 2016, against the FDA, the United States Fish and Wildlife Service, and related individuals for their roles in the approval of AquAdvantage Salmon, claiming that the FDA had no statutory authority to regulate genetically modified animals, and, if it did, that the agency failed to 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. Among other things, the claimants are seeking a judgment that the FDA decision to approve AquAdvantage Salmon is not authorized by the federal Food, Drug and Cosmetic Act ("FFDCA"), that an injunction be issued requiring the FDA to withdraw its assertion of jurisdiction over animals that contain genetically modified organisms ("GMOs"), that the FDA decision to approve AquAdvantage Salmon and its Environmental Assessment ("EA") and Finding of No Significant Impact ("FONSI") determinations be declared in violation of the FFDCA, and that the decision to approve the AquAdvantage Salmon NADA be vacated.

Though we believe this legal action lacks merit, it is currently ongoing. We may be subject to future litigation brought by one or more of these organizations in their attempt to block the development or sale of our product. In addition, animal rights groups and various other organizations and individuals have attempted to stop genetic engineering activities by pressing for legislation and additional regulation in these areas. To the extent the actions of these organizations are successful, our business may be adversely affected. Such actions, even if unsuccessful, may distract management from its operational priorities and may cause us to incur significant costs.

We may have to label our AquAdvantage Salmon at the retail level as containing a genetically modified organism, which could negatively impact consumer acceptance.

Until the passage of the National Sea Grant College Program Reauthorization in July 2016, which contained the National Bioengineered Food Disclosure Standard, or Labeling Act, our AquAdvantage Salmon did not need to be labeled as containing a genetically modified organism, because it had been deemed to be "substantially equivalent" to the traditional product. However, because several states either passed or considered new laws specifying varying requirements for labeling products sold at the retail level that contain genetically modified ingredients, the United States Congress passed the Labeling Act to establish a national standard for package labeling for foods containing genetically modified ingredients. The United States Department of Agriculture has until July 2018 to implement this new law. In addition, a bill was introduced in the United States Senate in July 2017 that could, if it became law, require labeling specific to AquAdvantage Salmon, rather than applicable to all genetically modified foods. Labeling requirements could cause consumers to view the label as either a warning or as an indication that AquAdvantage Salmon is inferior to traditional Atlantic salmon, which could negatively impact consumer acceptance of our product.

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 AquAdvantage Salmon in the United States, we will also be 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 AquAdvantage Salmon. International sales are also 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, 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.

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

Regulations pertaining to genetically modified 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, in July 2017, a bill was introduced in the United States Senate that could, if it became law, require labeling unique to, as well as re-examination of the environmental assessments used by the FDA in its 2015 approval of the NADA for AquAdvantage Salmon. 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 AquAdvantage Salmon are found, or believed, to grow to a larger final size than traditional Atlantic salmon.

Atlantic salmon farming is restricted in certain states.

Concerns regarding the possible environmental impact from AquAdvantage Salmon have led Washington and California 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 will offer excellent potential sites for AquAdvantage Salmon production systems, if additional states adopt similar restrictions, or otherwise prohibit the rearing of AquAdvantage Salmon in those states, the number of potential sites available to us for production farms in the United States could be reduced.

The loss of AquAdvantage Salmon broodstock could result in the loss of our commercial technology.

AquAdvantage 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 AquAdvantage Salmon broodstocks by whatever means would result in the loss of the product of that commercial technology. Live animals are subject to disease that may, in some cases, prevent or cause delay in the export of fish or eggs to customers. Disease organisms may be present 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. The broodstock, however, could be reinstated, in whole or in part, using our technology and stored breeding reserves.

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 will produce and grow our AquAdvantage Salmon in land-based, closed containment facilities, we will still be 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.

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 AquAdvantage 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 regards to AquAdvantage 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 would be cost-prohibitive to our competitors. 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 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 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 genetic engineering. 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.

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 genetically modified, growth-enhanced Atlantic salmon. However, the market for Atlantic salmon is dominated by a group of large, multinational corporations with entrenched distribution channels. Our ability to compete successfully will depend on our ability to demonstrate that AquAdvantage Salmon is superior to and/or less expensive than other products available in the market. Certain of our competitors may benefit from government support and other incentives that are not available to us. As a result, 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 patent 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 our technologies. If our technologies or products were stolen, misappropriated, or reverse engineered, 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.

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 or 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 biotechnology and other technology-based businesses, or due to the unavailability of personnel with the particular qualifications or experience necessary for our business. If we are not able to attract 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 or to support our internal research and development programs. In particular, our product development programs are dependent on our ability to attract and retain highly skilled scientists. Competition for

experienced 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.

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

We could face a period of rapid growth following commercial availability of our products, 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 and investments that could have an adverse impact on our business if they are unsuccessful.

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

- issue additional equity securities, which would dilute our current shareholders;
- incur substantial debt to fund the acquisitions; or
- assume significant liabilities.

Acquisitions 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. Acquisitions also 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.

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 CDN$2.9 million was made available under the grant, and we received the entire amount through

December 31, 2015. Now that we have begun to generate revenue, 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.

In February 2013, we entered into the Exclusive Channel Collaboration Agreement ("ECC") with Intrexon Corporation ("Intrexon"), pursuant to which we are permitted to use Intrexon's UltraVector and other technology platforms to develop and commercialize additional genetically modified traits in finfish for human consumption. The ECC grants us a worldwide license to use certain patents and other intellectual property of Intrexon in connection with the research, development, use, importing, manufacture, sale, and offer for sale of products involving DNA administered to finfish for human consumption. We agreed under the ECC to pay Intrexon, on a quarterly basis, 16.66% of the gross profits calculated for each developed product. We also agreed to pay Intrexon 50% of the quarterly revenue obtained from a sublicensee in the event of a sublicensing arrangement. In addition, we agreed to reimburse Intrexon for the costs of certain services provided by Intrexon. The ECC remains in effect. These payments could negatively impact our ability to support our operations.

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

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 changes in foreign currency exchange rates. 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. Therefore, movements in exchange rates to translate to foreign currencies may have a negative impact on our reported results of operations, financial position, and cash flows.

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 AquAdvantage 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 success will depend in part on our ongoing relationship with Intrexon.

We are party to agreements with Intrexon, including the ECC. Our success will depend, in part, on the maintenance of our ongoing relationship with Intrexon.

Certain members of management and our Board of Directors may hold stock in both Intrexon and AquaBounty, and as a result may face actual or potential conflicts of interest.

The management and directors of each of Intrexon and AquaBounty may own both Intrexon common stock and AquaBounty common stock. This ownership overlap could create, or appear to create, potential conflicts of interest when AquaBounty management and directors and Intrexon management and directors face decisions that could have different implications for AquaBounty and Intrexon. For example, potential conflicts of interest could arise in connection with the resolution of any dispute between AquaBounty and Intrexon regarding the terms of their relationship. Potential conflicts of interest may also arise out of additional commercial arrangements that AquaBounty or Intrexon may enter into in the future.

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 Internal Revenue Code of 1986, as amended (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. Our existing NOLs may be subject to substantial limitations arising from previous ownership changes, and if we undergo an ownership change in connection with or after this offering, 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.

Tax reform may significantly affect the Company and its stockholders.

A top legislative priority of the Trump administration and the current Congress is to enact significant reforms to the Code, including potentially significant changes to taxation of business entities such as the Company. To the extent tax reform is enacted, such changes could significantly affect the Company and its stockholders.

Risks Relating to our Common Stock

Intrexon's significant share ownership position allows it to influence corporate matters.

Based solely on a Schedule 13D/A filed on July 26, 2017 by Randal J. Kirk, Intrexon, and Third Security, LLC, Intrexon holds approximately 58.0% of our outstanding shares of common stock. Third Security, LLC and its affiliates other than Intrexon ("Third Security") hold approximately 7.1% of our outstanding shares of common stock. Randal J. Kirk, Intrexon's Chairman, Chief Executive Officer, and controlling shareholder, and Third Security's Chief Executive Officer and Senior Managing Director, has reported beneficial ownership of approximately 67.5% of our outstanding shares of common stock, which includes shares owned by both Intrexon and Third Security. In addition, we have granted to Intrexon certain rights to nominate members of our Board of Directors that are intended to ensure that Intrexon-nominated Board members represent a percentage of our Board that is proportionate to Intrexon's percentage ownership of our common stock. Accordingly, Intrexon will be able to significantly influence who serves on our Board of Directors and the outcome of matters required to be submitted to our shareholders for approval, including decisions relating to the outcome of any proposed merger or consolidation of our company. Intrexon's interests may not be consistent with those of our other shareholders. In addition, Intrexon's significant interest in us may discourage third parties from seeking to acquire control of us, which may adversely affect the market price of our common stock.

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

Although our common stock is currently traded on the Nasdaq Capital Market, an active trading market for our common stock may never develop or, if developed, be maintained. If an active market for our common stock does not develop or is not maintained, it may be difficult for shareholders 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. In addition, because Intrexon, our majority stockholder, has indicated an interest in purchasing a minimum of $7.5 million of shares of our common stock in this offering at the public offering price, if the aggregate gross proceeds to us from the offering are $20 million, the overall trading market for our shares may not be as active as it otherwise would have been.

The price of our shares of common stock is likely to be volatile and you may be unable to sell your shares at or above the offering price, if at all.

The share price of publicly traded emerging companies can be highly volatile and subject to wide fluctuations. The prices at which our common stock are 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 which may affect the quoted 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 genetic engineering environment, 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 commons stock. If the market price of our common stock after this offering does not exceed the offering price, you may not realize any return on your investment and may lose some or all of your investment.

We do not anticipate paying cash dividends in the foreseeable future, and, accordingly, shareholders 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 shareholders. 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.

If securities or industry analysts do not publish research or reports, or publish inaccurate or unfavorable research or reports about our business, our share price and trading volume could decline.

The U.S. trading market for our shares of common stock depends, in part, on the research and reports that securities or industry analysts publish about us or our business. We do not have any control over these analysts. If no securities or industry analysts commence coverage of us, the trading price for our shares of common stock may be negatively impacted. If we obtain securities or industry analyst coverage and one or more of the analysts who covers us downgrades our shares of common stock, changes their opinion of our shares, or publishes inaccurate or unfavorable research about our business, our share price would likely decline. If one or more of these analysts ceases coverage of us or fails to publish reports on us regularly, demand for our shares of common stock could decrease and we could lose visibility in the financial markets, which could cause our share price and trading volume to decline.

We are an "emerging growth company," and we cannot be certain if the reduced reporting requirements applicable to emerging growth companies will make our shares of common stock less attractive to investors.

We are an "emerging growth company," as defined in Section 2(a) of the Securities Act. For as long as we continue to be an emerging growth company, we may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including the auditor attestation requirements in the assessment of our internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act of 2002 ("Sarbanes-Oxley Act"), compliance with any new requirements adopted by the Public Company Accounting Oversight Board ("PCAOB") requiring mandatory audit firm rotation or a supplement to the auditors' report in which the auditor would be required to provide

additional information about the audit and the financial statements of the issuer, disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and the requirements of holding advisory "say-on-pay" votes on executive compensation and shareholder advisory votes on golden parachute compensation not previously approved. Under the Jumpstart Our Business Startups Act of 2012 ("JOBS Act"), we will remain an emerging growth company until the earliest of (1) the last day of the fiscal year following the fifth anniversary of the date of the first sale of our common stock pursuant to an effective registration statement filed under the Securities Act, (2) the last day of the fiscal year during which we have total annual gross revenues of $1 billion or more, (3) the date on which we have, during the previous three-year period, issued more than $1 billion in non-convertible debt, and (4) the date on which we are deemed to be a "large accelerated filer" as defined in Rule 12b-2 under the Exchange Act. We cannot predict if investors will find our shares of common stock to be less attractive because we may 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.

Under the JOBS Act, emerging growth companies also can delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have irrevocably elected to avail ourselves of this exemption from new or revised accounting standards and, therefore, will not be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

Our shareholders may not have the same protections generally available to shareholders of other Nasdaq-listed companies because we are currently a "controlled company" within the meaning of the Nasdaq listing rules.

Because Intrexon holds a majority of the voting power for the election of our Board of Directors, we are a "controlled company" within the meaning of Nasdaq Listing Rule 5615(c). As a controlled company, we qualify for exemptions from several of Nasdaq's corporate governance requirements, including requirements that:

- a majority of our Board of Directors consist of independent directors;
- compensation of officers be determined or recommended to our Board of Directors by a majority of its independent directors or by a compensation committee comprised solely of independent directors; and
- director nominees be selected or recommended to our Board of Directors by a majority of its independent directors or by a nominating committee that is composed entirely of independent directors.

While our Board of Directors has determined that a majority of its members are independent, we are not required to have a compensation committee or a nominating committee composed entirely of independent directors. Accordingly, our shareholders may not be afforded the same protections generally as shareholders of other Nasdaq-listed companies for so long as Intrexon controls the composition of our Board of Directors and our Board of Directors determines to rely upon exemptions available to controlled companies.

If we fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately report our financial results or prevent fraud.

Effective internal controls over financial reporting are necessary for us to provide reliable financial reports and, together with adequate disclosure controls and procedures, are designed to prevent fraud. Any failure to implement required new or improved controls, or difficulties encountered in their implementation could cause us to fail to meet our reporting obligations. In addition, any testing by us conducted in connection with Section 404 of the Sarbanes-Oxley Act, or any subsequent testing by our independent registered public accounting firm, may reveal deficiencies in our internal controls over financial reporting that are deemed to be material weaknesses or that may require prospective or retroactive changes to our financial statements or identify other areas for further attention or improvement. Ineffective internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our common stock.

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 shareholders, 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.

The financial reporting obligations of being a public company in the United States are expensive and time consuming and may place significant additional demands on our management.

The obligations of being a public company in the United States require significant expenditures, which we estimate will be approximately $400 thousand annually, and place additional demands on our management, including costs resulting from public company reporting obligations under the Exchange Act, and the rules and regulations regarding corporate governance practices, including those under the Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, and the listing requirements for the Nasdaq Capital Market. Our management and other personnel devote a substantial amount of time to ensure that we comply with all of these requirements. Moreover, despite reforms made possible by the JOBS Act, the reporting requirements, rules, and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly, particularly if we were no longer to qualify as an emerging growth company. Any changes that we make to comply with these obligations may not be sufficient to allow us to satisfy our obligations as a public company on a timely basis, or at all.

These rules and regulations make it more difficult and more expensive for us to obtain director and officer liability insurance, and we may be required to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. These factors also could make it more difficult for us to attract and retain qualified persons to serve on our Board of Directors, particularly to serve on our Audit Committee and Compensation Committee, or as executive officers.

There can be no assurance that we will be able to comply with the continued listing standards of the Nasdaq Capital Market.

Even though our common stock has been listed on the Nasdaq Capital Market, we cannot assure you that we will be able to comply with standards necessary to maintain a listing of our common stock on the Nasdaq Capital Market. Our failure to meet the continuing listing requirements may result in our common stock being delisted from the Nasdaq Capital Market.

If you purchase shares of our common stock in this offering, you will experience substantial and immediate dilution.

If you purchase shares of our common stock in this offering, you will experience substantial and immediate dilution in the pro forma net tangible book value per share after giving effect to this offering, based on an assumed public offering price of $ per share, the closing sale price of our common stock on the Nasdaq Capital Market on , 2017, because the price that you pay will be substantially greater than the pro forma net tangible book value per share of the common stock that you acquire. This dilution is due in large part to the fact that our earlier investors paid substantially less than the public offering price when they purchased their shares of our capital stock. You will experience additional dilution upon exercise of any warrant, upon

exercise of options to purchase common stock under our equity incentive plans, vesting of restricted stock units issued to our employees, if we further issue restricted stock to our employees under our equity incentive plans or if we otherwise issue additional shares of our common stock. For a further description of the dilution that you will experience immediately after this offering, see the section of this prospectus titled "Dilution".

Our management will have broad discretion over the use of the proceeds we receive in this offering and might not apply the proceeds in ways that increase the value of your investment.

Our management will have broad discretion to use the net proceeds we receive from this offering and, and you will be relying on the judgment of our management regarding the application of these proceeds. Our management might not apply the net proceeds that we receive from this offering in ways that increase the value of your investment. We currently intend to use the net proceeds of this offering to complete construction and renovations of our existing facilities in Rollo Bay and Indiana, for working capital and other general corporate purposes. We may also use a portion of the net proceeds for acquisitions of complementary businesses, technologies or other assets, although we do not currently have any agreements, commitments or understandings with respect to any such acquisitions. Until we use the net proceeds that we receive from this offering, we plan to invest them, and these investments may not yield a favorable rate of return. If we do not invest or apply the net proceeds we receive from this offering in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

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 shareholders.

The existence of some provisions of our articles 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 shareholder may consider favorable. These provisions include:

- providing that the number of members of our board is limited to a range fixed by our bylaws;
- 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 shareholders at shareholder 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 shareholders 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 shareholder becoming an interested shareholder was approved in advance by our Board of Directors, results in the shareholder holding more than 85% of our voting stock, subject to certain restrictions, or is approved at an annual or special meeting of shareholders by the holders of at least 66 2/3% of our voting stock not held by the shareholder 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 shareholders to receive a premium for their shares of our common stock and could also affect the price that some investors are willing to pay for our common stock.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, particularly the sections of this prospectus 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 prospectus, including statements regarding our future results of operations and financial positions, business strategy, plans and our objectives for future operations, are forward-looking statements. When used in this prospectus, 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; any continued backing by our majority shareholder, Intrexon; 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 potential for lifting of the FDA Import Alert and the issuance of labeling guidance; the completion of renovations at our new hatchery facility and the construction of a pilot-scale grow-out unit; 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. Forward-looking statements in this prospectus include, but are not limited to, statements about:

- the anticipated benefits and characteristics of our AquAdvantage® Salmon product;
- The implementation and likelihood of achieving the business plan, future revenue, and operating results;
- developments concerning our research projects;
- our expectations regarding our ability to successfully enter new markets or develop additional products;
- our competitive position and developments and projections relating to our competitors and our industry;
- expectations regarding anticipated operating results;
- our cash position and ability to raise additional capital to finance our activities;
- our ability to protect our intellectual property and other proprietary rights and technologies;
- the impact of and our ability to adapt to changes in laws or regulations and policies;
- the ability to secure any necessary regulatory approvals to commercialize any products;
- the rate and degree of market acceptance of any products developed through the application of genetic engineering, including genetically modified fish;
- our ability to retain and recruit key personnel;
- the success of any of our future acquisitions or investments;
- our expectations regarding the time during which we will be an emerging growth company under the JOBS Act;
- our expectations related to the use of proceeds from this offering; and
- our estimates regarding expenses, future revenue, capital requirements, and needs for additional financing.

We caution you that the foregoing list may not contain all of the risks to which the forward-looking statements made in this prospectus 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 included in this prospectus, 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 prospectus. 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.

MARKET, INDUSTRY AND OTHER DATA

This prospectus includes statistical and other industry and market data that we obtained from industry publications and research, surveys and studies conducted by third parties, including the U.S. Department of Commerce, Kontali Analyse, the United Nations Food and Agriculture Organization, the International Food Information Council, the National Fisheries Institute and the National Oceanic and Atmospheric Administration. Industry publications and third-party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable. Based on our industry experience, we believe that the third-party sources are reliable and the conclusions contained in the publications are reasonable. The industry in which we operate is subject to a high degree of uncertainty and risks due to high variety of factors, including those included in the section of this prospectus titled “Risk Factors.”

USE OF PROCEEDS

We estimate that the net proceeds from the sale of shares of our common stock that we are selling in this offering will be approximately $ million, based upon an assumed public offering price of $ per share, the last reported sale price of our common stock on the Nasdaq Capital Market on , 2017, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. If the underwriter's option to purchase additional shares from us is exercised in full, we estimate that our net proceeds would be approximately $ million, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

Each $1.00 increase or decrease in the assumed public offering price of $ per share would increase or decrease the net proceeds that we receive from this offering by approximately $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions payable by us. Similarly, each increase or decrease of one million in the number of shares of common stock offered by us would increase or decrease the net proceeds that we receive from this offering by approximately $ million, assuming the assumed public offering price remains the same and after deducting the estimated underwriting discounts and commissions payable by us.

We anticipate that we will use the net proceeds we receive from this offering, including any net proceeds we receive from the exercise of the underwriter's option to acquire additional shares of common stock in this offering, to complete construction and renovations of our existing facilities in Rollo Bay and Indiana, provide working capital and for other general corporate purposes, including investing further in our sales and marketing and research and development efforts and payment of anticipated general and administrative expenses. We also intend to use proceeds we receive from this offering to fund our growth strategies described elsewhere in this prospectus. We may use a portion of the net proceeds we receive for the acquisition of businesses, technologies or other assets that we believe are complementary to our own, although we have no agreements, commitments or understandings with respect to any such transaction.

The amount of what, and timing of when, we actually spend for these purposes may vary significantly and will depend on a number of factors, including our future revenue and expenses and the other factors described in the section of this prospectus captioned "Risk Factors." Accordingly, our management will have broad discretion in applying a portion of the net proceeds we receive from this offering. Pending these uses, we intend to invest the remaining net proceeds in high quality, investment-grade instruments.

MARKET PRICE OF OUR COMMON STOCK

Our common stock is currently traded on the Nasdaq Capital Market under the symbol "AQB". Prior to our listing on the Nasdaq Capital Market we were listed on the Alternative Investment Market ("AIM"), the London Stock Exchange's international market for smaller growing companies, since 2006, initially under the symbol "ABTX" and, commencing in 2014, under the symbol "ABTU." For the period from January 19, 2017 to May 31, 2017, we were dual listed on both the Nasdaq Capital Market and AIM. Effective June 1, 2017, we voluntarily delisted our common stock from AIM. As of October 31, 2017, 8,895,094 shares of our common stock were issued and outstanding.

As of October 31, 2017, there were approximately 345 holders of record of our common stock. The transfer agent for our common stock is Computershare Trust Company, N.A.

The following table sets forth the high and low closing sale prices for our common stock for the periods indicated, as reported by AIM, the only exchange on which our common stock was listed in 2016 and 2015. These prices are as reported by the London Stock Exchange plc. Amounts presented in U.S. dollars reflect the currency exchange rate in effect on the date the price was reported on AIM.

	Price Per Share of Common Stock			
Quarterly Period	**Low**		**High**	
2015				
Quarter ended March 31, 2015	£3.60	$5.48	£ 5.10	$ 7.94
Quarter ended June 30, 2015	£4.35	$6.48	£ 4.65	$ 7.14
Quarter ended September 30, 2015	£3.75	$5.69	£ 4.50	$ 7.08
Quarter ended December 31, 2015	£4.05	$6.11	£11.10	$16.94
2016				
Quarter ended March 31, 2016	£6.60	$9.51	£ 8.25	$11.84
Quarter ended June 30, 2016	£4.05	$5.87	£11.85	$17.25
Quarter ended September 30, 2016	£7.35	$9.67	£10.95	$14.18
Quarter ended December 31, 2016	£7.20	$8.81	£ 9.15	$11.79
2017				
Quarter ended March 31, 2017	£4.28	$5.20	£21.79	$26.49
Period to May 31, 2017	£6.01	$7.77	£ 9.05	$11.33

The following table sets forth the high and low closing sale prices for our common stock for the periods indicated, as reported on the Nasdaq Capital Market.

	Price Per Share of Common Stock	
Quarterly Period	**Low**	**High**
2017		
Quarter ended March 31, 2017	$5.20	$26.49
Quarter ended June 30, 2017	$6.90	$11.33
Quarter ended September 30, 2017	$6.50	$ 8.02

On November 3, 2017, the closing sale price of our common stock on the Nasdaq Capital Market was $5.18.

DIVIDEND POLICY

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.

CAPITALIZATION

The following table sets forth our cash and capitalization as of September 30, 2017:

- on an actual basis; and
- on an as adjusted basis to reflect our receipt of the net proceeds from our sale of shares of common stock in this offering at an assumed public offering price of $ per share, the closing sale price of our common stock on the Nasdaq Capital Market on , 2017, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

You should read this table together with the section of this prospectus titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and the related notes appearing elsewhere in this prospectus.

	As of September 30, 2017	
	Actual	As Adjusted(1)
	(in thousands, except for share numbers)	
Cash and CD's	$ 4,731	$
Current debt	55	
Long-term debt	3,060	
Total liabilities	4,718	
Preferred stock, $0.01 par value per share; 40 million shares authorized		
Common stock, $0.001 par value per share; 200 million shares authorized, actual; 8,895,094 shares issued and outstanding, actual; shares authorized, as adjusted; shares issued and outstanding, as adjusted	9	
Additional paid-in capital	126,681	
Accumulated other comprehensive loss	(243)	
Accumulated deficit	(105,869)	
Total stockholders' equity	20,578	
Total capitalization	$ 25,296	$

(1) A $1.00 increase (decrease) in the assumed public offering price of $ per share, the closing price of our common stock on the Nasdaq Capital Market on , 2017, would increase (decrease) cash and cash equivalents, total stockholders' equity and total capitalization by $, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Each increase of 100,000 shares in the number of shares offered by us, assuming that the assumed public offering price remains the same, would increase cash, total stockholders' equity and total capitalization by $ million. Similarly, each decrease of 100,000 shares in the number of shares offered by us, assuming that the assumed public offering price remains the same, would decrease cash and cash equivalents, total stockholders' equity and total capitalization by $ million.

The number of shares of common stock to be outstanding after this offering is based on 8,895,094 shares of common stock outstanding as of September 30, 2017 and excludes:

- 227,203 shares of common stock issuable upon the exercise of stock options outstanding as of September 30, 2017 with a weighted-average exercise price of $9.39 per share under our 2006 Plan and our 2016 Plan;
- 397,500 shares of common stock reserved for future issuance under our 2016 Plan, as more fully described in the section of this prospectus titled "Executive Compensation—Employee Benefit Plans."

DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted to the extent of the difference between the public offering price per share of our common stock and the as adjusted net tangible book value per share of our common stock immediately after this offering. Net tangible book value dilution per share to new investors represents the difference between the amount per share paid by purchasers of shares of common stock in this offering and the as adjusted net tangible book value per share of common stock immediately after completion of this offering.

Net tangible book value per share is determined by dividing our total tangible assets less our total liabilities by the number of shares of common stock outstanding. Our historical net tangible book value as of September 30, 2017 was $20.6 million, or $2.31 per share.

After giving effect to the sale by us of shares of common stock in this offering at an assumed public offering price of $ per share, the closing sale price of our common stock on the Nasdaq Capital Market on , 2017, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of September 30, 2017 would have been $ million, or $ per share. This represents an immediate increase in as adjusted net tangible book value of $ per share to our existing stockholders and immediate dilution of $ per share to investors purchasing shares of common stock in this offering at the public offering price. The following table illustrates this dilution:

Assumed public offering price per share		$
Historical net tangible book value per share as of September 30, 2017	$2.31	
Increase in net tangible book value per share attributable to new investors in this offering		
As adjusted net tangible book value per share after this offering		
Dilution per share to new investors		$

If the underwriter exercises its option to purchase additional shares in full, the as adjusted net tangible book value per share of our common stock immediately after this offering would be $ per share, and the dilution in net tangible book value per share to new investors in this offering would be $ per share.

A $1.00 increase (decrease) in the assumed public offering price of $ per share, the closing price of our common stock on the Nasdaq Capital Market on , 2017, would increase (decrease) cash and cash equivalents, total stockholders' equity and total capitalization by $, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Each increase of 100,000 shares in the number of shares offered by us, assuming that the assumed public offering price remains the same, would increase cash, total stockholders' equity and total capitalization by $ million. Similarly, each decrease of 100,000 shares in the number of shares offered by us, assuming that the assumed public offering price remains the same, would decrease cash and cash equivalents, total stockholders' equity and total capitalization by $ million.

The number of shares of common stock to be outstanding after this offering is based on 8,895,094 shares of common stock outstanding as of September 30, 2017 and excludes:

- 227,203 shares of common stock issuable upon the exercise of stock options outstanding as of September 30, 2017 with a weighted-average exercise price of $9.39 per share under our 2006 Plan and our 2016 Plan;
- 397,500 shares of common stock reserved for future issuance under our 2016 Plan, as more fully described in "Executive Compensation—Employee Benefit Plans."

To the extent that outstanding options are exercised you will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities may result in further dilution to our stockholders.

SELECTED CONSOLIDATED FINANCIAL DATA

You should read the selected consolidated financial data below in conjunction with the section of this prospectus titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements, related notes and other financial information included elsewhere in this prospectus. The selected consolidated financial data in this section are not intended to replace the consolidated financial statements and are qualified in their entirety by the consolidated financial statements and related notes included elsewhere in this prospectus.

The following table sets forth our selected consolidated financial data for the periods and as of the dates indicated. You should read the following selected consolidated financial data in conjunction with our audited consolidated financial statements and the related notes thereto included elsewhere in this prospectus and the section of this prospectus titled "Management's Discussion and Analysis of Financial Condition and Results of Operations."

The consolidated statement of operations data for the years ended December 31, 2016 and 2015, and the consolidated balance sheet data as of December 31, 2016 and 2015, are derived from our audited consolidated financial statements. Our audited consolidated financial statements have been prepared in U.S. dollars in accordance with United States Generally Accepted Accounting Principles, or U.S. GAAP. The summary consolidated statement of operations data for the nine months ended September 30, 2016 and 2017 and the summary consolidated balance sheet data as of September 30, 2017 have been derived from our unaudited financial statements for such period, included elsewhere in this prospectus.

Our historical results for any prior period are not necessarily indicative of results to be expected in any future period.

	Nine Months Ended September 30,		Fiscal Years Ended December 31,	
	2017	2016	2016	2015
(in thousands, except share data)	(unaudited)			
Statement of Operations Data:				
Revenues				
Product revenues	$ 53	$ —	$ —	$ —
Costs and expenses:				
Product costs	51	—	—	—
Sales and marketing	607	650	860	994
Research and development (2)	2,517	2,706	3,430	3,338
General and administrative	3,453	2,428	3,775	2,697
Total costs and expenses	6,628	5,784	8,065	7,029
Operating loss	(6,575)	(5,784)	(8,065)	(7,029)
Other income (expense):				
Interest and other income (expense), net	(20)	(241)	(406)	(3)
Total other income (expense)	(20)	(241)	(406)	(3)
Net loss	$ (6,595)	$ (6,025)	$ (8,471)	$ (7,032)
Other comprehensive income:				
Foreign currency translation gain (loss)	43	(86)	(60)	229
Total other comprehensive income (loss)	43	(86)	(60)	229
Comprehensive loss	$ (6,552)	$ (6,111)	$ (8,531)	$ (6,803)
Basic and diluted net loss per share (1)	$ (0.76)	$ (1.15)	$ (1.60)	$ (1.40)
Weighted average number of common shares—basic and diluted (1)	8,731,178	5,249,776	5,303,113	5,037,367

	As of September 30,		As of December 31,	
	2017	2016	2016	2015
	(unaudited)			
Balance Sheet Data:				
Cash and CD's	$ 4,731	$ 3,194	$3,335	$1,324
Total assets	$25,296	$ 5,193	$5,709	$2,637
Debt	$ 3,115	$10,229	$2,663	$2,070
Stockholders' equity (deficit)	$20,578	$ (6,000)	$2,028	$ (56)

(1) The basic and diluted net loss per share and weighted average number of common shares used in the net loss per share calculation have been adjusted to reflect the 1-for-30 reverse stock split effected January 2017.

(2) For all years presented, we reclassified the costs of our field trials and Panama farm site from sales and marketing to research and development.

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 prospectus. 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 prospectus, particularly in "Risk Factors" and elsewhere in this prospectus.

Overview

We believe that we are a leader in the field of biotechnology tools for improving the productivity of aquaculture. Our product is the AquAdvantage Salmon, which received Food and Drug Administration ("FDA") approval in 2015 as the first genetically modified animal available for sale for human consumption. We intend to commence commercial activities with operations in markets where we have received regulatory approval. The first steps in our commercial plan have been implemented, including the following:

- we received approval from the provincial regulatory authorities in Prince Edward Island for the construction of a broodstock facility to house our non-transgenic Atlantic salmon stock and a 250 metric ton recirculating aquaculture system ("RAS") facility to grow out our AquAdvantage Salmon;
- we are also continuing an active search in both the United States and Canada for either an existing land-based RAS facility or a site on which to build a new facility for the commercial production of AquAdvantage Salmon; and
- we have made our first sales of AquAdvantage Salmon from our farm site in Panama in June 2017.

In addition, on June 22, 2017, we purchased certain assets of the aquaculture facility of Bell Fish Company LLC, which we intend to use to grow out our AquAdvantage Salmon for sale and consumption in the United States. The facility and related assets acquired from Bell Fish Company LLC provide one input into the Company's process for growing its product, and, accordingly, the purchase of the facility was accounted for as an asset purchase rather than the acquisition of a "business," consistent with Accounting Standards Update ("ASU") 2017-01, "Business Combinations: Clarifying the Definition of a Business."

Financial Overview

We have incurred significant losses since our inception. We expect to continue to incur significant losses for the foreseeable future, and we may never achieve or maintain profitability. We generate product revenue through the sales of our AquAdvantage Salmon. During June 2017, the Company completed its first sales of AquAdvantage Salmon. We have had no revenues from any other product since 2008.

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," in February 2016, we executed a convertible debt facility providing for borrowings of up to $10 million with Intrexon Corporation ("Intrexon"), our majority shareholder. On December 16, 2016, the entire $10 million (plus accrued interest) of convertible debt was converted into 1,212,908 shares of our common stock. Additionally, in January 2017, we sold 2,421,073 shares of our common stock to Intrexon for proceeds of approximately $25 million.

During the next several years, we expect that our annual spending on operations will increase. We expect that our research and development costs will increase as we expand the scope of our current projects and add new development projects under the Exclusive Channel Collaboration Agreement ("ECC") with Intrexon. We expect

that our general and administrative expenses and capital expenditures will increase due to the added reporting requirements of being a reporting company in the United States, as well as due to the operation of our new production facilities in Indiana and Rollo Bay, and the anticipated growth of our company. We expect that our sales and marketing expenses will increase with the commencement of commercial activities for our AquAdvantage Salmon. We may also decide to construct or purchase additional production facilities to grow-out AquAdvantage Salmon. These activities would require substantial new investment to fund the cost of purchase or construction of land-based farming facilities. However, the uncertainty of the timing of the commencement of operations at our production facilities in Indiana and Rollo Bay for AquAdvantage Salmon makes it difficult to forecast these expenses or create a definitive operational plan beyond the short term. Upon completion of the first harvests at our production facilities in Indiana and Rollo Bay, we expect to finalize our operational plan and move forward with further expansion, which will require us to raise additional funds.

Revenue

We generate product revenue through the sales of our AquAdvantage Salmon. Revenue is recognized when we identify the performance obligation in the contract, determine the transaction price, allocate the transaction price to the performance obligations, and recognize revenue upon completion of the performance obligation. Sales orders contain a single deliverable, AquAdvantage Salmon, and revenue is recognized upon delivery. During June 2017, we completed our first sales of AquAdvantage Salmon.

In the future, our revenue will depend upon the number of countries in which we have received regulatory approval for the sale of our products, the number and capacity of grow-out facilities we have in operation, and the market acceptance we achieve.

Cost of Products

Cost of products includes the labor and related costs to grow out our fish, including feed, oxygen, and other direct costs; an application of overhead; and the cost to process and ship our fish to customers.

Sales and Marketing Expenses

Our sales and marketing expenses currently include personnel costs, travel, and consulting fees for market-related activities. As of October 31, 2017, we had three employees dedicated to sales and marketing.

Research and Development Expenses

As of October 31, 2017, we employed twenty-one scientists and technicians at our facilities on Prince Edward Island to oversee our broodstock of AquAdvantage Salmon, as well as the lines of fish we maintain for research and development purposes. Beginning in 2012, we outsourced our research activities at the hatchery to Tethys Aquaculture Canada, Inc. (doing business as the Center for Aquaculture Technologies Canada) (“Tethys”), our former research group. During 2015, we made the decision to reinstitute our in-house research group, and we have hired personnel to reestablish that function internally. This has allowed us to phase-out and end our contract research agreement with Tethys. In addition, under the ECC, we have an agreement with Intrexon to conduct research on and develop new finfish products using their technology platform. 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, Intrexon, and consultants who perform research for us;
- costs related to laboratory supplies used in our research and development efforts;
- costs related to the operation of our field trials; and
- costs related to the grow-out of fish at the Panama site that are not capitalized in inventory.

From time to time we receive government funding or assistance in support of certain research projects. Any funds received are credited against costs incurred for the specific program.

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 market maintenance, regulatory compliance, rent and utilities, insurance, and legal services, along with the maintenance and repair costs for our Indiana facility. We had thirteen employees in our general and administrative group at October 31, 2017.

Other Income (Expense), Net

Interest income consists of interest earned on our cash and short-term investments. Interest expense includes the interest on our outstanding loans. Other income (expense) includes bank charges, fees, and interest income.

Significant Accounting Policies and Estimates

This Management's Discussion and Analysis of our Financial Condition and Results of Operations is based on our consolidated financial statements, which we have prepared in accordance with U.S. 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 prospectus, we believe that the following accounting policies are the most critical for fully understanding and evaluating our financial condition and results of operations.

Inventories

We measure inventory at the lower of cost or net realizable value ("NRV"), where NRV is defined as the estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation.

Government Assistance

From time to time we receive government assistance in the form of research grants and loans, which are recorded as a reduction of the related expenditures. All government assistance is subject to periodic audit by the agency involved in the grant.

Valuation Allowance for Net Deferred Tax Assets

We record a valuation allowance to offset any net deferred tax assets if, based upon the available evidence, it is more likely than not that we will not recognize some or all of the deferred tax assets. We have had a history of net losses since inception, and, as a result, we have established a 100% valuation allowance for our net deferred tax assets. If circumstances change, and we determine that we will be able to realize some or all of these net deferred tax assets in the future, we will record an adjustment to the valuation allowance.

Valuation of Long-Lived 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 that we have developed. Patent costs are amortized on a straight-line basis over 20 years beginning with the issue date of the applicable patent. Licensing fees are capitalized and expensed over the term of the licensing agreement. Indefinite-lived intangible assets include trademark costs, which are capitalized with no amortization as they have an indefinite life.

We review the carrying value of our long-lived tangible assets and definite-lived intangible assets on an annual basis or more frequently if facts and circumstances suggest that they may be impaired. The carrying values of such assets are considered impaired when the anticipated identifiable 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 fair value. Indefinite-lived intangible assets are subject to impairment testing annually or more frequently if impairment indicators arise. Our impairment testing utilizes a discounted cash flow analysis that requires significant management judgment with respect to revenue and expense growth rates, changes in working capital, and the selection and use of the appropriate discount rate. An impairment loss, if any, is recognized in the amount of the difference between the carrying amount and fair value.

Share-Based Compensation

We measure and recognize all share-based payment awards, including stock options made to employees and directors, based on estimated fair values. The fair value of each 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 our consolidated statement of operations. We use the Black-Scholes option pricing model ("Black-Scholes") as our method of valuation.

Results of Operations

Comparison of the nine months ended September 30, 2017, to the nine months ended September 30, 2016.

The following table summarizes our results of operations for the nine months ended September 30, 2017 and 2016, together with the changes in those items in dollars and as a percentage (all dollar amounts in thousands):

(in thousands)	Nine Months Ended September 30, 2017	2016	Dollar Change	% Change
	(unaudited)			
Product revenue	$ 53	$ —	$ 53	—%
Operating expenses:				
Product costs	51	—	51	—%
Sales and marketing	607	650	(43)	(7)%
Research and development	2,517	2,706	(189)	(7)%
General and administrative	3,453	2,428	1,025	42%
Operating loss	6,575	5,784	791	14%
Total other (income) expense	20	241	(221)	(92)%
Net loss	$ 6,595	$ 6,025	$ 570	9%

Product Revenue and Gross Margin

The first sales of AquAdvantage Salmon were recognized during the nine months ended September 30, 2017. Regulatory approval for the harvest and export of our fish from our Panama farm site was received during the current period, and a batch of fish was sold and shipped to customers in Canada.

Gross margin on product sales was $3 thousand, as the inventory had been previously valued at Net Realizable Value ("NRV") on our balance sheet. We expect that sales of our fish will be infrequent and of small quantities until our Indiana and Rollo Bay facilities are operational and the fish in those facilities have matured, which is expected in the second half of 2019.

Sales and Marketing Expenses

Sales and marketing expenses for the nine months ended September 30, 2017, were down from the corresponding period in 2016 due to lower travel and outside service costs.

Research and Development Expenses

Research and development expenses for the nine months ended September 30, 2017, were down from the corresponding period in 2016 due to a reduction in outside contract research expenses and an allocation of cost to inventory, which were partly offset by an increase in compensation.

General and Administrative Expenses

General and administrative expenses for the nine months ended September 30, 2017, were significantly higher than the corresponding period in 2016 due to increased compensation charges and higher professional fees, corporate taxes and the costs of maintenance and repair of the Indiana site, which were partially offset by a reduction in stock compensation charges and legal fees.

Total Other (Income) Expense

Total other (income) expense is comprised of interest on debt, bank charges, and interest income for the nine months ended September 30, 2017. Total other (income) expense is comprised of interest on the convertible debt with Intrexon, gains on asset disposals, bank charges, and interest income for the nine months ended September 30, 2016.

Comparison of the year ended December 31, 2016, to the year ended December 31, 2015.

The following table summarizes our results of operations for the years ended December 31, 2016 and 2015, together with the changes in those items in dollars and as a percentage (in thousands):

	Year Ended December 31,		Dollar	%
	2016	2015	Change	Change
Operating expenses:				
Sales and marketing	$ 860	$ 994	$ (134)	(13)%
Research and development	3,430	3,338	92	3%
General and administrative	3,775	2,697	1,078	40%
Operating loss	8,065	7,029	1,036	15%
Total other (income) expense, net	406	3	403	13,433%
Net loss	$8,471	$7,032	$1,439	20%

Sales and Marketing Expenses

The decrease in sales and marketing expenses for the year ended December 31, 2016, was due to a decrease in outside services related to design fees for a land-based recirculating aquaculture facility, which were completed in February 2016. This was partially offset by an increase in headcount and travel costs. We expect that our sales and marketing expenses will continue to increase now that we have received both FDA and Health Canada approvals for AquAdvantage Salmon.

Research and Development Expenses

The increase in research and development expenses for the year ended December 31, 2016, was due to the shift of spending from the use of outside contract work to inside personnel, along with the commencement of field trials in Argentina and Brazil. We expect that our research and development expenses will increase as we further develop our new site at Rollo Bay and as we continue to pursue regulatory approval for additional products.

General and Administrative Expenses

The increase in general and administrative expenses for the year ended December 31, 2016, was due to the addition of headcount, increased legal fees from third-party challenges to our two regulatory approvals, and legal fees for the filing of the registration statement for our common shares with the Securities and Exchange Commission. We expect that our general and administrative expenses will increase as we begin to operate as a public company in the United States. We estimate that expenditures associated with being a public company will be approximately $400 thousand annually and will include increased costs for director and officer liability insurance, costs related to the hiring of additional personnel, and increased fees for outside consultants, lawyers, and accountants. We also expect to incur increased costs to comply with corporate governance, internal controls, and similar requirements applicable to U.S. public companies.

Total Other (Income) Expense

Total other (income) expense is comprised of interest on debts, gains on asset disposals, and bank charges for the years ended December 31, 2016 and 2015.

Comparison of the year ended December 31, 2015, to the year ended December 31, 2014.

The following table summarizes our results of operations for the years ended December 31, 2015 and 2014, together with the changes in those items in dollars and as a percentage (in thousands):

	Years Ended December 31,		Dollar	%
	2015	2014	Change	Change
Operating expenses:				
Sales and marketing	$ 994	$ 729	$ 265	36%
Research and development	3,338	3,213	125	4%
General and administrative	2,697	3,193	(496)	(16)%
Operating loss	7,029	7,135	(106)	(1)%
Total other (income) expense, net	3	(8)	11	(138)%
Net loss	$7,032	$7,127	$ (95)	(1)%

Sales and Marketing Expenses

The increase in sales and marketing expenses for the year ended December 31, 2015, was the result of pre-commercialization activities for our AquAdvantage Salmon product. We contracted for the design of a land-based recirculating aquaculture facility and hired an international technical support person.

Research and Development Expenses

The increase in research and development expenses for the year ended December 31, 2015, was due to an increase in work performed under our ECC agreement with Intrexon and the ending of our USDA grant for work on our maternal sterility project. These costs were partly offset by the positive impact of the weakening Canadian dollar versus the US dollar.

General and Administrative Expenses

The decrease in general and administrative expenses for the year ended December 31, 2015, was the result of lower legal fees incurred and lower outside consulting fees. This reduction was partly offset by the cost of hiring a General Counsel to join the management team.

Total Other Income (Expense)

Total other income (expense) was primarily comprised of bank charges for the year ended December 31, 2015. It was comprised of interest income and bank charges for the year ended December 31, 2014.

Quarterly Results

The following tables set forth our unaudited consolidated quarterly statement of operations data for the eight quarters ended September 30, 2017. In our opinion, this unaudited information has been prepared on substantially the same basis as the consolidated financial statements appearing elsewhere in this prospectus and includes all adjustments necessary for a fair statement of the unaudited consolidated quarterly data. The unaudited consolidated quarterly data should be read together with the consolidated financial statements and related notes included elsewhere in this prospectus. The results for any quarter are not necessarily indicative of results for any future period, and you should not rely on them as such.

	2015	2016				2017		
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
	(in thousands)							
Product revenues	$ —	$ —	$ —	$ —	$ —	$ —	$ 53	$ —
Operating expenses:	—							
Product costs	—	—	—	—	—	—	51	—
Sales and marketing	207	201	239	210	210	208	203	196
Research and development	943	815	916	975	723	720	936	861
General and administrative	689	780	824	824	1,347	1,121	950	1,382
Operating loss	1,839	1,796	1,979	2,009	2,281	2,049	2,140	2,439
Total other (income) expense	(1)	23	85	133	165	7	6	7
Net loss	$(1,838)	($1,819)	($2,064)	($2,142)	($2,446)	($2,056)	($2,093)	($2,446)

Liquidity and Capital Resources

Sources of Liquidity

We have incurred losses from operations since our inception in 1991, and, as of September 30, 2017, we had an accumulated deficit of $105.9 million. On June 30, 2015, we completed a private placement of 424,269 shares of our common stock, all of which was purchased by Intrexon. The net proceeds from this offering were $3.0 million. On February 22, 2016, we entered into a convertible debt facility with Intrexon (the "Debt Facility"). Advances under the Debt Facility carried an interest rate of 10% per year and had a maturity date of March 1, 2017. The entire $10 million (plus accrued interest) under the Debt Facility was converted into 1,212,908 shares of our common stock on December 16, 2016. On January 18, 2017, we completed a private placement of 2,421,073 shares of our common stock to Intrexon for proceeds of approximately $25 million. As of September 30, 2017, we had a cash balance of $4.7 million.

Cash Flows

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

	Nine Months Ended September 30,		Years Ended December 31,		
	2017	2016	2016	2015	2014
	(unaudited)				
Net cash provided by (used in):					
Operating activities	$ (6,676)	$(5,434)	$ (7,449)	$(6,748)	$ (6,561)
Investing activities	(17,235)	(739)	(1,074)	(105)	(152)
Financing activities	25,250	8,045	10,541	3,044	10,024
Effect of exchange rate changes on cash	54	(2)	(7)	(41)	(23)
Net increase (decrease) in cash	$ 1,393	$ 1,870	$ 2,011	$(3,850)	$ 3,288

Cash Flows from Operating Activities

Net cash used in operating activities during the nine months ended September 30, 2017, was primarily comprised of our $6.6 million net loss, offset by non-cash depreciation and stock compensation charges of $223 thousand, and increased by working capital uses of $303 thousand. Net cash used in operating activities during the nine months ended September 30, 2016, was primarily comprised of our $6.0 million net loss, offset by non-cash depreciation and stock compensation charges of $273 thousand, and working capital sources of $318 thousand.

Net cash used in operating activities during the year ended December 31, 2016, was primarily comprised of our $8.5 million net loss, offset by non-cash depreciation and stock compensation charges and accrued interest of $765 thousand, and working capital sources of $257 thousand. Spending on operations increased during 2016 due to headcount additions, increased legal fees, the commencement of two international field trials, and the purchase of a new farm site. The increase in cash sourced by working capital in 2016 was due to an increase in accrued expenses, offset by an increase in government receivables.

Net cash used in operating activities during the year ended December 31, 2015, was primarily comprised of our $7.0 million net loss, offset by non-cash depreciation and stock compensation charges of $344 thousand, and working capital reductions of $59 thousand. Spending on operations was slightly down during 2015. We increased spending on research and pre-commercial activities and added headcount, but we reduced legal fees and benefited from favorable foreign exchange rates. Cash used for working capital went to an increase in prepaid expenses and outstanding receivables, along with a reduction in accounts payable and accrued liabilities.

Net cash used in operating activities during the year ended December 31, 2014, was primarily comprised of our $7.1 million net loss, offset by non-cash depreciation and stock compensation charges of $414 thousand, and working capital increases of $153 thousand. Spending on operations increased by $2.3 million during 2014, as we incurred legal and professional fees for the planned registration of our common stock in 2014, began to increase employee headcount, and invested in new research programs. Cash provided by changes in working capital came primarily from a reduction in prepaid expenses and outstanding receivables, offset by an increase in accounts payable and accrued liabilities.

Cash Flows from Investing Activities

During the nine months ended September 30, 2017, we used $14.2 million for the purchase of certain assets of Bell Fish Company LLC and $3.0 million for construction charges at our Rollo Bay farm site. During the same period in 2016, we used $700 thousand for the purchase of certain assets of Atlantic Sea Smolt Ltd., $57 thousand for property and equipment purchases, and $6 thousand for patent charges. This was offset by $24 thousand in proceeds from the sale of existing assets.

During 2016, we used $1.1 million for property and equipment purchases, primarily for the purchase of the Rollo Bay farm site, and $6 thousand for patent charges. This was offset by $24 thousand in proceeds from the sale of existing assets. During fiscal 2015, we used $74 thousand for equipment purchases and incurred $31 thousand for patent charges. In 2014, we used $117 thousand for equipment purchases and incurred $35 thousand for patent charges.

Cash Flows from Financing Activities

During the nine months ended September 30, 2017, we received approximately $25.0 in proceeds from the issuance of our common stock in a private placement of shares, $257 thousand in proceeds from the issuance of term debt, and $28 thousand in proceeds from the exercise of employee stock options. This was offset by $24 thousand in the repayment of debt. During the same period in 2016, we received $7.5 million in proceeds from the issuance of convertible debt and $547 thousand in proceeds from the issuance of term debt. This was offset by $2 thousand in the repayment of debt.

During 2016, we received $10.0 million in proceeds from the issuance of convertible debt, which was converted into common stock, and $547 thousand in proceeds from the issuance of term debt. This was off-set by $6 thousand in the repayment of debt. In 2015, we received $3.0 million of net proceeds from the issuance of our common stock in a private placement of shares and $44 thousand from the issuance of term debt. In 2014, we received $9.7 million of net proceeds from the issuance of our common stock in a private placement of shares, $12 thousand in proceeds from the exercise of stock options, and $268 thousand in proceeds from the issuance of term debt.

On June 30, 2015, we completed a private offering of 424,269 shares of our common stock to Intrexon. The net proceeds from this offering were approximately $3.0 million.

On January 18, 2017, we completed a private offering of 2,421,073 shares of our common stock to Intrexon. The net proceeds from this offering were approximately $25 million. As of September 30, 2017, we had a cash balance of $4.7 million.

Future Capital Requirements

We have evaluated our cash resources in view of our planned spending for ongoing operations, capital expenditures, and working capital for the next twelve months and have determined that our current funds will be used by the end of December 2017. We intend to devote a significant portion of our existing cash to our farm sites in Indiana and Rollo Bay and the continued investment in our research and development projects. We plan to seek additional financing in the form of debt or equity to fund our cash requirements.

We have based our estimates on assumptions that may prove to be wrong, and we may use our available capital resources sooner than we currently expect. Our future capital requirements will depend on many factors, including:

- the timing of additional regulatory approvals and permits for AquAdvantage Salmon, if any;
- the cost to complete construction activities at our Rollo Bay site;
- the cost to upgrade the equipment at our Indiana site; and
- the timing of costs related to the FDA legal challenge.

Until such time, if ever, as we can generate positive operating cash flows, 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. 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.

Management believes that the Company can continue as a going concern. Management's assessment is based on its belief that the Company will be able to raise additional equity or debt to fund its requirements. Additionally, management could slow down spending to conserve the Company's cash if there is a delay in obtaining new funding. Therefore, 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. However, if we are unable to generate additional funds in the future through financings, sales of our products, government grants, loans, or from other sources or transactions, 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.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements as defined under Securities and Exchange Commission ("SEC") rules.

Contractual Obligations

The following table summarizes our significant contractual obligations and commercial commitments at December 31, 2016, and the effects such obligations are expected to have on our liquidity and cash flows in future periods (in thousands):

	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
PEI Finance loan	$527	$ 18	$ 58	$451	$ —
Panama site lease	240	180	60	—	—
Total	$767	$ 198	$118	$451	$ —

In addition to the obligations in the table above, as of December 31, 2016, we also have the following significant contractual obligations described below:

- In January 2009, we were awarded a grant to provide funding of a research and development project from the Atlantic Canada Opportunities Agency ("ACOA"), a Canadian government agency. The total amount provided under the award was C$2.9 million ($2.1 million as of December 31, 2016), which must be repaid in the form of a 10% royalty on any products commercialized out of this research and development project until fully paid. This amount is included in long-term debt in the consolidated balance sheet, but is not included in the table above due to the uncertainty of the timing of repayment.
- In February 2013, we entered into the ECC with Intrexon, pursuant to which we are permitted to use Intrexon's UltraVector and other technology platforms to develop and commercialize additional genetically modified traits in finfish for human consumption. We agreed under the ECC to pay Intrexon, on a quarterly basis, 16.66% of the gross profits calculated for each developed product. We also agreed to pay Intrexon 50% of the quarterly revenue obtained from a sublicensee in the event of a sublicensing arrangement. In addition, we agreed to reimburse Intrexon for the costs of certain services provided by Intrexon. Amounts required to be paid to Intrexon under the ECC are not included in the table above due to the uncertainty of the timing of payments.

- In February 2016, our Canadian subsidiary executed an agreement with ACOA to partially finance the renovations to our Rollo Bay farm site. The terms of the agreement include funding up to CDN$337,000 with repayment commencing after the final draw-down of the funds. The loan term is nine years with a zero percent interest rate. The loan is not included in the table above as we had not drawn-down any funds as of December 31, 2016, and the timing of payments is uncertain.

Recent Accounting Pronouncements

In August 2014, the Financial Accounting Standards Board (the "FASB") issued Accounting Standards Update ("ASU") 2014-15 "Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern." The core principle of the guidance is that an entity's management should evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the entity's ability to continue as a going concern within one year after the date that the financial statements are available to be issued. When management identifies conditions or events that raise substantial doubt about an entity's ability to continue as a going concern, management should consider whether its plans that are intended to mitigate those relevant conditions or events that will alleviate the substantial doubt are adequately disclosed in the footnotes to the financial statements. This guidance is now effective and has been adopted.

In February 2016, the FASB issued ASU 2016-02, "Leases," which requires a lessee to recognize lease liabilities for the lessee's obligation to make lease payments arising from a lease, measured on a discounted basis, and right-of-use assets, representing the lessee's right to use, or control the use of, specified assets for the lease term. Additionally, the new guidance has simplified accounting for sale and leaseback transactions. Lessor accounting is largely unchanged. The ASU is effective for fiscal years beginning after December 15, 2018. We are currently evaluating the impact of adopting the ASU on our financial statements.

In March 2016, the FASB issued ASU No. 2016-09, "Compensation-Stock Compensation." The areas for simplification in this update involve several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. This guidance is now effective and has been adopted

In August 2016, the FASB issued ASU No. 2016-15, "Statement of Cash Flows," which provides specific guidance on eight cash flow classification issues. For public entities, the amendments in this update are effective for annual periods beginning after December 15, 2017, and interim periods within those annual periods. We are currently evaluating the impact of adopting this ASU on our financial statements.

In January 2017, the FASB issued ASU 2017-01, "Business Combinations: Clarifying the Definition of a Business." The revised guidance changes the definition of a business to assist entities with evaluating whether a set of transferred assets and activities is a business. For public entities, this update is effective for annual periods beginning after December 15, 2017, and interim periods within those annual periods. The Company has adopted this pronouncement.

In May 2014, the FASB issued ASU 2014-09, "Revenue from Contracts with Customers," which supersedes the revenue recognition requirements in ASC 605, "Revenue Recognition," and most industry-specific guidance throughout the ASC. ASU 2014-09 established principles for recognizing revenue upon the transfer of promised goods or services to customers, in an amount that reflects the expected consideration received in exchange for those goods or services. This guidance is now effective and has been adopted.

In July 2015, the FASB issued ASU 2015-11 "Inventory: Simplifying the Measurement of Inventory." The main provision of the guidance is that an entity should measure inventory at the lower of cost or Net Realizable Value ("NRV"), where NRV is defined as the estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation. This guidance is now effective and has been adopted.

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

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. At September 30, 2017, December 31, 2016, and December 31, 2015, we had $814 thousand, $527 thousand and nil, respectively, in interest-bearing debt instruments on our consolidated balance sheet. All of our interest-bearing debt is at fixed rates.

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 Panama, 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 shareholders' equity (deficit).

BUSINESS

Overview

We use genetic modification and other molecular biologic techniques to improve the quality and yield of fish stocks and help the aquaculture industry meet growing consumer demand. Since 2008, we have been focused on the regulatory approval of our AquAdvantage Salmon product. Since that time, we completed the New Animal Drug Application ("NADA") process with the U.S. Food and Drug Administration ("FDA") for AquAdvantage Salmon, and, on November 19, 2015, we received approval of the NADA for the production, sale and consumption of AquAdvantage Salmon.

On May 19, 2016, we received approval from Health Canada, the department of the government of Canada with responsibility for national public health, for the production, sale, and consumption of AquAdvantage Salmon as a novel food and feed in Canada. Previously, we had received approval from Environment Canada, the agency of the government of Canada with responsibility for regulating environmental policies and issues, which decided that AquAdvantage Salmon was not harmful to the environment or human health when produced in contained facilities. Consequently, we have now received approvals for our product from what we believe are two of the most respected and rigorous regulatory agencies in the world.

We believe that receipt of FDA approval for AquAdvantage Salmon not only represents a major milestone for us, but also a significant pioneering development in introducing transgenic animals into the food chain. Although genetically modified crops have been accepted by consumers in the United States and South America for some time, AquAdvantage Salmon is the first genetically modified animal to be approved for human consumption. We intend to deploy AquAdvantage Salmon in land-based, contained, freshwater aquaculture systems, which would allow inland fish farms to be established close to major demand centers in a profitable and environmentally sustainable manner. The technology underlying AquAdvantage Salmon offers the potential to reintroduce salmon aquaculture in the United States, which imported more than $2.6 billion of Atlantic salmon in 2016 according to the U.S. Department of Commerce (the "DOC"). See the section of this prospectus titled "Business-Our Product" for more information on AquAdvantage Salmon and the section of this prospectus titled "Business-Regulatory Environment" for more information on our completed NADA process with the FDA.

We have incurred significant losses since our inception. We expect to continue to incur significant losses for the foreseeable future, and we may never achieve or maintain profitability. We have made our first sales of AquAdvantage Salmon from our farm site in Panama and expect modest revenues during 2017 and 2018, with more significant revenues expected once our facilities in Indiana and on Prince Edward Island are in full production in the second half of 2019. For the fiscal years ended December 31, 2016 and 2015, we experienced operating losses of $8.5 million and $7.0 million, respectively. As of September 30, 2017, our cumulative losses since inception were $105.9 million, and our total assets were $5.3 million.

Management is pursuing several paths to revenue generation that follow different timelines, including production of our fish at our existing farm sites, purchase or construction of additional production facilities in North America, and licensing or partnership arrangements. Additionally, management is pursuing regulatory approval for AquAdvantage Salmon in Brazil, Argentina, China and Chile.

The Aquaculture Industry

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 Research and Markets, an industry research organization, the global aquaculture market is valued at $176.5 billion in 2017 and is expected to grow at an annual rate of 4.5% to reach a market size of $219.4 billion by the year 2022. We believe that the aquaculture industry-and in particular salmon farming-is poised for significant additional growth in the coming years as the global population expands.

Salmon Farming

Atlantic salmon farming is a major industry in the cold-water countries of the northern and southern hemispheres. According to the United Nations Food and Agriculture Organization ("FAO"), Atlantic salmon aquaculture production grew by approximately 6.7% annually between 2000 and 2015. Total production volume of farmed Atlantic salmon during 2015 was just under 2.4 million metric tons with a value over $11.9 billion. Industry analyst Kontali Analyse expects increases in demand to drive continued production growth through 2020, although at a lower annual rate of approximately 3.0%, primarily due to supply constraints.

Below is a break-down by major producing country for the time period 2008 through 2014, which is the last year for which data is readily available.

Worldwide Atlantic Salmon Production by Country (in metric tons)

	F.A.O.					
Country	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Canada	101,544	110,328	116,101	97,629	86,347	121,926
United States	19,535	18,595	19,295	18,866	18,719	18,719
Chile	123,233	264,349	399,678	492,329	644,459	608,546
United Kingdom	154,633	158,310	162,547	163,518	179,397	172,143
Ireland	15,691	12,196	12,440	9,125	9,368	13,116
Norway	939,536	1,064,868	1,232,095	1,168,324	1,258,356	1,303,346
Faroe Islands	45,391	60,473	76,564	75,821	86,454	80,600
Australia	31,807	36,662	43,982	42,776	41,591	48,330
All other	5,682	9,607	11,696	25,549	23,376	14,850
WW Volume (mt)	1,437,052	1,735,388	2,074,398	2,093,937	2,348,067	2,381,576

Pricing

According to the DOC, which tracks the volume and value of Atlantic salmon imports into the United States, from 2011 to 2016 the average wholesale price of Atlantic salmon imported into the country increased from $3.81 per pound ($8.39/kilogram) to $4.30 per pound ($9.48/kilogram).

The daily spot (farm-gate or wholesale market) price for Atlantic salmon is very volatile due to the species' long production cycle, which typically ranges between two and three years, and its short shelf life, which typically ranges between two and three weeks. Farmed salmon is typically sold as fresh and thus must be consumed within this timeframe. Consequently, the available supply is very inelastic over the short term, while demand can be very elastic due to price, season, or market size.

Major Producers

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, and their primary country of operation, include the following companies: Marine Harvest (Norway), Leroy Seafood Group ASA (Norway), Cermaq ASA (Norway), SalMar ASA (Norway), Empresas AquaChile S.A. (Chile), and Cooke Aquaculture Inc. (Canada).

U.S. Atlantic Salmon Market

According to the DOC, in 2016 the United States imported a record 619 million pounds (279 thousand metric tons) of Atlantic salmon with an aggregate market value of approximately $2.66 billion, or $4.30 per pound. The DOC also reported that over 75% of the total quantity of Atlantic salmon imports into the United States in 2016 originated from Chile and Canada. 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 the FAO, a total of only 41 million pounds of farmed Atlantic salmon was produced in the United States in 2015 representing only 6.3% of the total farmed Atlantic salmon supplied.

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 DOC, during the period from 2007 to 2012, annual seafood consumption in the United States ranged between 14 and 16 pounds per capita, significantly behind consumption of poultry (80 to 85 pounds), beef (57 to 65 pounds), and pork (46 to 50 pounds). In comparison, according to SeaFood Business magazine, average seafood consumption throughout Europe was 48.5 pounds per capita in 2012. In 2016 average seafood consumption in the US was 14.9 lbs. according to the National Fisheries Institute and the National Oceanic and Atmospheric Administration.

Perception of Genetically Modified Atlantic Salmon

Though Atlantic salmon is the second most consumed seafood in the United States, activist groups opposing genetic modifications of organisms have pressured a number of retail food outlets and grocery chains to publicly state that they will not carry genetically modified Atlantic 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 wholesale marketplace. To date, large wholesalers have not followed the example of these retailers, and we believe that there will be sufficient demand from smaller retailers, wholesalers, and institutional seafood buyers to absorb our projected production. We believe that FDA approval reinforces the message that AquAdvantage Salmon is a safe and nutritious seafood product that is equivalent to conventional farmed Atlantic salmon. This belief is based in part on the results of a 2014 survey released by the International Food Information Council, titled *Consumer Perceptions of Food Technology*, which indicated that 59% of consumers are “somewhat” or “very” likely to buy genetically engineered seafood if the FDA deems it safe.

There are surveys that have been cited by various non-governmental organizations (“NGOs”) that indicate that consumers are reluctant to purchase genetically modified food and that they would like to see labeling in order to avoid it. Internally generated data has shown that, although AquAdvantage Salmon exhibit an accelerated growth rate in early development stages, they do not grow to a larger end size than conventional Atlantic salmon. Consumer acceptance could be adversely affected if AquAdvantage Salmon were found, or believed, to grow to a larger final size than traditional Atlantic salmon. In addition, our regulatory burdens could also increase.

In response to these perceptions, we plan to educate consumers on the benefits of AquAdvantage Salmon versus conventional Atlantic salmon, including better 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 and reduced exposure of the fish to environmental toxins due to use of land-based aquaculture systems, and reduced reliance on chemotherapeutics due to improved biosecurity.

Atlantic Salmon Disease Impact

An area of concern with current Atlantic salmon farming production is the environmental impact and the cost of disease management associated with those operations. 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 infected, the cost of lost or reduced harvests.

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 vaccines and health management practices to mitigate its impact. Though primarily occurring in traditional sea-cage farming environments, ISA can also be introduced into populations that are in land-based, self-contained facilities. In November 2009, certain fish from our land-based hatchery on Prince Edward Island tested positive for ISA. We notified the Canadian Department of Fisheries and Oceans ("DFO") following discovery of the virus, which was diagnosed as a strain with low pathogenicity and of unknown origin. We conducted an extensive screening program of all fish in the facility, destroying any fish that tested positive for ISA.

Subsequent tests conducted by DFO of fish in the facility began in March 2010 and indicated that the virus had been eliminated from the facility. We enacted improvements in biosecurity and facility operation, and the facility regained its disease-free status from DFO after four consecutive tests indicated no presence of the virus. The fish health status of the facility continues to be monitored by the Canadian Food Inspection Agency. The facility has not had any reportable disease outbreaks since the isolated incident in 2009.

Sea lice are marine parasites that occur naturally and attach to the skin of Atlantic salmon. Though a few lice on a large salmon present no problem, the presence of significant numbers can adversely impact the health and aesthetic appearance of the fish. The cost of managing sea lice in sea-cage farming environments can be significant.

The closed, contained, land-based production systems, using technology referred to as recirculating aquaculture systems ("RAS"), proposed for the grow-out of AquAdvantage Salmon are less susceptible, though not immune, to the same disease-related pressures 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 will allow the AquAdvantage Salmon 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.

In contrast, sea cage, or conventional aquaculture fish, are housed in large 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 is a universally accepted fact in human and animal health. The presence of disease agents in these uncontrolled water currents could result in infection and spread of infection within the captive population. The risks and outcomes of conventional, open sea-cage systems are well established, 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. Furthermore, the use of antibiotics, vaccines, and other pharmacological agents is similarly well documented in conventional systems, presenting a risk to the environment and also to the consumers of treated fish.

Further, stocking RAS facilities with disease-free eggs results in a much higher degree of biosecurity and protection from disease. We expect that production and economic losses due to disease will be significantly less

in the closed, land-based culture systems proposed for the production of AquAdvantage Salmon, because of greater control over environmental conditions and superior biosecurity than in traditional Atlantic salmon production systems.

Restrictions on Atlantic Salmon Farming

Environmental concerns have led certain states to impose legislative and regulatory restrictions or bans on the farming of Atlantic salmon. This could reduce the number of potential sites available to us for production farms in the United States. Nevertheless, we expect that many states will offer excellent potential sites for AquAdvantage Salmon production systems.

Our Product

Our product, AquAdvantage Salmon, is a genetically modified Atlantic salmon that can grow to marketable size in about half the time of traditional farmed Atlantic salmon. 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, an edible marine fish, more consistent levels of growth hormone are released, which accelerates the early stages of the salmon's development. Based on internally generated data, we have determined that the AquAdvantage Salmon do not reach a larger final size than their traditional counterparts. However, by accelerating growth in the early stages of rearing, these fish can reach a marketable size sooner. In the case of Atlantic salmon, this can reduce farming time from 28 to 36 months to 18 to 20 months.

This accelerated growth has several advantages, both economic and environmental. The faster life cycle, from birth to harvesting, of AquAdvantage Salmon as compared to conventional salmon would allow it to be produced more economically in contained inland systems. Although this would require greater capital investment than the sea cage approach, we believe that the higher costs would be offset by more efficient growth, 25% better feed conversion, reduced exposure to environmental threats, and more effective control of disease. In addition, with a facility located nearer to the major food markets, we believe there would be savings on transportation of the harvested stock, a reduced carbon footprint, and an improved ability to get fresh product to market faster.

Plan of Operation

Our core business is to develop and market superior products to improve productivity in aquaculture. Our first product is the AquAdvantage Salmon, which received FDA and Health Canada approval as the first genetically modified animal for human consumption as food. Our business plan contemplates that we will initially establish two production facilities to prove the economic benefit and consumer acceptance for our product. We have begun construction of a 250 metric ton production unit in Rollo Bay, on Prince Edward Island, which will be operational in 2018. We have also acquired an existing facility in Albany, Indiana, which is currently undergoing upgrades to increase its annual production capacity to 1200 metric tons. Both of these facilities must be approved by the FDA prior to their initial stocking with AquAdvantage Salmon, but we anticipate both to be operational in 2018 with a first harvest of commercial production in late 2019.

Once these farm sites reach full production operation, we intend to explore additional channels to commercialize the product. Such efforts may involve producing AquAdvantage Salmon eggs for commercial production, licensing the technology to salmon growers, and/or continuing to grow out the salmon in our own land-based facilities.

In order to scale up our egg production capabilities, we have begun construction on a new broodstock facility at our farm site in Rollo Bay. Once completed and at full capacity, this facility will be capable of producing over five million AquAdvantage Salmon eggs annually.

We intend to continue investing in research and development. We anticipate that our research and development expenditures will increase as we continue to develop our other AquAdvantage fish products and initiate new

research projects under the Exclusive Channel Collaboration Agreement (the "ECC") that we entered into in February 2013 with Intrexon Corporation ("Intrexon"). See the section of this prospectus titled "Certain Relationships and Related Party Transactions-Exclusive Channel Collaboration Agreement." The timeline for development projects will depend on many factors, but could extend beyond ten to fifteen years, taking into account the time needed for development, regulatory approval and pre-marketing activities.

Any additions to headcount in our research and production activities will depend on the number of development activities we undertake and the success of our commercialization efforts for AquAdvantage Salmon. We expect to increase our headcount in administration at our corporate headquarters as we begin to commercialize our product and as a result of being a public reporting company in the United States.

Our Markets

With regulatory approvals in the United States and Canada, we plan to market AquAdvantage Salmon throughout both countries. In addition, we intend to focus on those significant fish farming markets where we believe we will have success in gaining further regulatory approvals and consumer acceptance. We currently expect to market AquAdvantage Salmon in the United States and Canada, as well as Panama, Argentina, Brazil, China and Chile following receipt of required regulatory approval in the respective jurisdiction.

If we pursue a commercial strategy to sell AquAdvantage Salmon eggs, we expect the cost of production for each AquAdvantage Salmon egg will be higher than the industry norm, but will fall significantly once production volume increases. While no pricing structure has been set, we believe that the cost savings associated with AquAdvantage Salmon resulting from the ability to spread fixed costs over a greater number of fish and reduced grow-out time will allow AquAdvantage Salmon eggs to sell at a premium to standard Atlantic salmon eggs.

If we pursue a commercial strategy to grow-out AquAdvantage Salmon in our own land-based facilities, we expect our production costs to be lower than traditional salmon farming due to the faster growth rate and 25% better feed conversion rate of our fish, along with lower relative transportation costs.

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 large retail and food service chains. We expect that harvested AquAdvantage Salmon will be sold into this distribution network.

Regulatory Environment

United States Regulation of Genetically Modified Products

The genetic modification of food using the tools of modern biotechnology is regulated in the United States by two government organizations, the United States Department of Agriculture ("USDA") for genetically modified plants and the FDA for genetically modified animals.

The regulatory system for genetically modified plants is based upon the Coordinated Framework, issued by the Office of Science and Technology Policy in 1986 and regulated by the USDA's Bureau of Regulatory Services and Animal and Plant Health Inspection Services under the Federal Plant Pest Act. Certain genetically modified plants are regulated under the Federal Insecticide, Fungicide, and Rodenticide Act by the Environmental Protection Agency ("EPA"). The USDA and the Environmental Protection Agency are also required to determine the environmental impact of a proposed application under the National Environmental Policy Act ("NEPA"). The process for plants is essentially one of issuing test permits and data dossiers for the product's proposed use, followed by a process of de-regulation or approval if the application is found to be acceptable under the applicable regulations.

The regulatory process for food and animal feed is also based upon the Coordinated Framework, but the enabling legislation is the Federal Food, Drug, and Cosmetic Act, along with NEPA. In the case of animals 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.

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 genetically engineered 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 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. The following is a summary of certain submissions relating to the technical section of the NADA that we made to the FDA's Center for Veterinary Medicine ("CVM") during this period:

- In August 2006, we submitted to the CVM the last correspondence for the review of the molecular characterization of the AquAdvantage construct. On October 6, 2006, we received a letter from the CVM stating "the data and information that you have submitted adequately supports the molecular characterization of the opAFP-GHc2 construct."
- In May 2007, we submitted to the CVM the last correspondence for the review of the molecular characterization of the AquAdvantage Salmon lineage. On July 2, 2008, we received a letter from the CVM stating "[w]e have reviewed the data and information you have submitted in support of the molecular characterization of the genetically engineered (GE) salmon referred to as 'AquAdvantage Salmon' and find that it is adequate support to conclude the molecular characterization of the inserted rDNA construct and GE animal lineage step of our review."
- In July 2009, we submitted to the CVM the last of the correspondence for the review of AquAdvantage Salmon claim validation. On March 12, 2010, we received a letter from the CVM stating "[w]e have reviewed the data and information that you have submitted in support of the Claim Validation of the genetically engineered (GE) salmon referred to as 'AquAdvantage Salmon', and consider this section complete."
- In December 2009, we submitted to the CVM the last of the correspondence for the review of the phenotypic characterization of AquAdvantage Salmon. On June 4, 2010, we received a letter from the CVM stating "[w]e have reviewed the data and information that you have submitted in support of the phenotypic characterization of the genetically engineered (GE) salmon referred to as 'AquAdvantage Salmon' and find that it is adequate support to conclude the phenotypic characterization step of our review."
- In March 2010, we submitted to the CVM the final correspondence for the review of data submitted in support of the safety of food from AquAdvantage Salmon. On August 27, 2010, we received a letter from the CVM stating "[w]e have reviewed the data and information that you have submitted in support of the food safety assessment of food from the genetically engineered (GE) salmon referred to as 'AquAdvantage Salmon' and find that it is adequate to conclude our evaluation of food safety."
- In April 2010, we submitted to the CVM the last of the correspondence for the review of the genotypic and phenotypic durability of AquAdvantage Salmon. On June 11, 2010, we received a letter from the CVM stating "[w]e have reviewed the data and information that you have submitted in support of the Genotypic and Phenotypic Durability of the genetically engineered (GE) salmon referred to as 'AquAdvantage Salmon' and find that you have adequately supported the Genotypic and Phenotypic Durability step of our review."

By the spring of 2010, we had submitted to the FDA data for each technical submission requirement for approval under the NADA. By the fall of 2010, we had received from the FDA technical section complete letters for each submission requirement.

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.

In September 2010, the FDA held a public meeting of its Veterinary Medicine Advisory Committee (the "VMAC") to review the FDA's findings regarding AquAdvantage Salmon. The VMAC, which was disbanded in September 2013, was a group of independent experts charged with providing scientific advice to the FDA on animal drug and food issues. The VMAC had no authoritative power regarding the approval of the NADA but was convened to listen to the results of the FDA review process and to provide an outside opinion on the FDA's conclusions. At the public meeting, the FDA posed four questions to the VMAC relating to the safety and effectiveness of AquAdvantage Salmon, including safety to the animal, safety of consumption, safety to the environment, and effectiveness of the growth gene. The Chairman's Report of the VMAC relating to the public meeting stated that (1) the VMAC found no evidence to conclude that the gene construct was unsafe to the animal; (2) a large number of the test results studied by the VMAC established similarities and equivalence between AquAdvantage Salmon and traditional Atlantic salmon and that the levels of growth hormone contained in AquAdvantage Salmon did not appear to be biologically relevant from a food safety standpoint, although the VMAC noted that it could not conclude from the data submitted that AquAdvantage Salmon would be more or less allergenic than traditional Atlantic salmon; (3) the multitude of barriers to escape of AquAdvantage Salmon at both our Prince Edward Island and Panama facilities were extensive, mitigating the potential environmental impact of escape; and (4) there was evidence to support our claim that AquAdvantage Salmon grows faster than traditional Atlantic salmon. The VMAC did not vote or make a recommendation on whether to approve the NADA, and certain members of the panel recommended additional monitoring to determine whether the growing conditions could cause health abnormalities. While the FDA is not bound by the VMAC's recommendations or opinions, the VMAC did not dispute the FDA's conclusions that AquAdvantage Salmon is safe for human consumption.

On December 26, 2012, the FDA published its Environmental Assessment ("EA") and its preliminary Finding of No Significant Impact ("FONSI") determinations for AquAdvantage Salmon, confirming that an approval of the pending NADA would not have an adverse effect on the environment. The FDA opened up a 60-day period for public comment on the EA and preliminary FONSI. On February 13, 2013, the FDA extended the period for public comment by an additional 60 days, and that period expired April 26, 2013.

In July 2014, we submitted to the FDA revised label and package insert information, which updated label and package insert information that we initially submitted to the FDA in April 2011. The submission of revised label and package insert information was in response to a June 2014 request from the FDA to revise and update the initial submission. Under the NADA review process, we were required to submit to the FDA from time to time information responsive to an "all other information" portion of the NADA, which requires the submission of information, not included in any of the technical sections, that comes to our attention and is pertinent to an evaluation of the safety or effectiveness of AquAdvantage Salmon. We submitted our last supplement to the "all other information" portion of the NADA on July 15, 2015, and the FDA formally acknowledged its acceptance of this submission on November 18, 2015.

On November 19, 2015, the FDA finalized the FONSI on the EA and issued an approval letter for the NADA for AquAdvantage Salmon. This approval was published in the Federal Register on November 24, 2015. In conjunction with the approval, the FDA issued a guidance document on the voluntary labeling of food derived from Atlantic salmon that has or has not been genetically engineered. That document was intended to assist those manufacturers who wish to voluntarily make the distinction on the labeling of their food products.

Following the FDA approval, in April 2016, a coalition of NGOs sued the FDA for their approval of AquAdvantage Salmon. The NGOs claim that the FDA failed to analyze and prevent risks to wild salmon and the environment. Among other things, the claimants are seeking a judgment that the FDA decision to approve AquAdvantage Salmon is not authorized by the Federal Food, Drug and Cosmetic Act ("FFDCA"); that an injunction be issued requiring the FDA to withdraw its assertion of jurisdiction over genetically modified organism ("GMO") animals; that the FDA decision to approve AquAdvantage Salmon and it EA and FONSI be declared in violation of the FFDCA; and that the decision to approve the AquAdvantage Salmon NADA be vacated. Although we believe that these claims lack merit, this legal action is ongoing and is currently in the discovery phase.

In January 2016, the U.S. Congress passed the 2016 Omnibus Appropriations Act ("Appropriations Act"), which was signed into law. The Appropriations Act contained an amendment that directed the FDA to issue final guidance for labeling of AquAdvantage Salmon as a GMO, despite the absence of any GMO labeling requirement in the FDA's NADA approval. Current FDA policy does not require labeling for method of production if there is no material difference compared with its traditional counterpart, and the FDA arrived at the decision that AquAdvantage Salmon is as safe to eat, and as nutritious, as any non-genetically engineered Atlantic salmon. However, given this directive, the FDA issued an Import Alert on AquAdvantage Salmon and stated that a temporary hold was being implemented to comply with language in the Appropriations Act, which was due to expire on September 30, 2016, but which was extended through a series of continuing resolutions to December 8, 2017. At this time, there can be no certainty as to when or if the Import Alert will be lifted or when the FDA will finalize its labeling guidance.

In addition to FDA approval of the NADA for AquAdvantage Salmon, our operating sites in the United States, Panama and on Prince Edward Island, as well as those we plan to build or purchase 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 Panama and Prince Edward Island operating sites is currently registered with the FDA, and the FDA has performed inspections and site visits at each facility. Our new facilities in Albany, Indiana and in Rollo Bay, Prince Edward Island will require FDA inspection and registration as drug manufacturing establishments.

With the FDA approval of our NADA, 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. 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.

Other Regulatory Approvals

In February 2012, we filed a Novel Food application for AquAdvantage Salmon with Health Canada. In conjunction with this application, we filed to register AquAdvantage Salmon as a Novel Feed with the Canadian Food Inspection Agency, a prerequisite for a Novel Food approval. Health Canada and the Canadian Food Inspection Agency reviewed our data submission on the safety of AquAdvantage Salmon as a food and feed, respectively. On May 19, 2016, Health Canada concluded that AquAdvantage Salmon does not raise concerns related to food safety. Health Canada also noted in its opinion that fillets derived from AquAdvantage Salmon are as safe and nutritious as fillets from currently available farmed Atlantic salmon.

In April 2013, we filed a New Substances Notification for AquAdvantage Salmon with Environment Canada. On November 25, 2013, Environment Canada concluded that AquAdvantage Salmon is not harmful to the environment or human health when produced in contained facilities. This ruling, which was subject to a judicial review brought about by certain environmental groups on administrative procedural grounds, recognized that our

Canadian hatchery, which produces sterile, all-female eggs, was no longer solely a research facility but could produce eggs on a commercial scale without harm to the environment or human health. In December 2015, the Federal Court in Canada ruled that the Ministers of Environment and Health decision to allow production of AquAdvantage Salmon in Canada for commercial use was "reasonable and made in the manner prescribed by the Canadian Environmental Protection Act." Accordingly, the court dismissed the entire application brought before it by the Ecology Action Centre and Living Oceans Society. This ruling was appealed by those organizations, but the Canadian Federal Court of Appeal dismissed the appeal on October 21, 2016.

We are required to comply with regulatory and permitting requirements in Panama, where we operate a demonstration farm for AquAdvantage Salmon. In October 2010, we received authority from *Autoridad Nacional del Ambiente* ("ANAM"), the Panamanian environmental regulator, to operate our facility in Panama. In March 2012, we were notified by ANAM that we had failed to comply with specified permitting, inspection, reporting, and other regulatory requirements in connection with the construction and operation of the facility. We initiated a program to remedy the deficiencies, and the issues were formally resolved in August 2014. We paid a fine of $9,500 in connection with the resolution of these issues, and the matter is now closed. We currently have all regulatory approvals necessary to operate our demonstration farm in Panama and we have obtained, and are in compliance in all material respects with, all permits necessary to operate that facility. We have moved forward with an application for the commercial production, sale, and consumption of AquAdvantage Salmon in Panama. This application process is new, and we do not have information on when, or if, the application will be approved. However, in June 2017, we received approval from the National Biosafety Commission in Panama for the production, harvest and export AquAdvantage Salmon.

We have also received approval from regulators to conduct field trials for AquAdvantage Salmon in Argentina and Brazil and those trials are currently on-going. We intend to initiate additional regulatory filings outside the United States in selected markets that offer a clear regulatory path and market opportunity.

Grow-out of AquAdvantage Salmon in the United States will require compliance with environmental regulations and local site permitting statutes. In addition, every production site for AquAdvantage Salmon in the United States will require approval by the FDA of both a Supplemental NADA and a site-specific EA, as well as compliance with local permitting requirements for construction of grow-out facilities. We expect that we will incur costs to comply with these environmental and regulatory requirements, which could take several years to complete for each production site. We are currently unable to estimate these costs, but they may be significant.

Raw Materials

We previously sourced the unfertilized eggs that we use for internal research and trials of our AquAdvantage Salmon eggs from a Canadian supplier. After our FDA approval, we purchased a salmon farm near our hatchery on Prince Edward Island to maintain our own source of unfertilized eggs. We are currently constructing a broodstock facility on this site, which when completed and at full capacity, will provide over 5 million fertilized AquAdvantage Salmon eggs annually. We believe this will be sufficient for our production requirements for at least the next five years.

Intellectual Property

The AquAdvantage fish program is based upon a single, specific molecular modification in fish that results in more rapid growth in early development. This enables shorter production cycles and increased efficiency of production. Prior to February 2014, we were a party to a license agreement with Genesis Group, Inc., an affiliate of Memorial University of Newfoundland ("Genesis"), and an affiliate of the Hospital for Sick Children of Toronto ("HSC") related to our transgenic fish program. Under the terms of this agreement, we were required to make an annual royalty payment of $25 thousand or revenue-based royalty payments equal to five percent of any gross revenues generated from products that utilize the technology covered under the license agreement. No revenue-based royalty payments were made under this agreement. The patent for the licensed technology, which

had been issued in certain salmon producing countries, expired in August 2013. In February 2014, we entered into a new license agreement with Genesis and HSC that replaced the prior license agreement. Under the new agreement, we hold a global, perpetual, royalty-free, fully paid, sub-licensable, assignable, non-exclusive right to the technology covering genetically modified salmonid fish that express endogenous growth hormone under the control of a protein gene promoter from an edible fish. In consideration for this license, we agreed to pay to Genesis a one-time payment of $140 thousand, which amount was paid on March 6, 2014, but no additional patents are contemplated under this agreement. 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 modified fish would present significant barriers to competition.

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. While the technology described in the sterility system patent is not currently used nor required under any of our current regulatory approvals, the technology may be desirable in the future to obtain or maintain regulatory approvals. Patents for this technology have been granted regarding our rights to use certain technologies under the ECC with Intrexon. For more information, see the section of this prospectus titled “Certain Relationships and Related Party Transactions–Exclusive Channel Collaboration Agreement.”

Seasonality

Atlantic salmon spawn once per year, so there is a natural seasonality of three to five months in the production of Atlantic salmon eggs for commercial use. This natural seasonality can be lengthened through the use of photoperiod techniques to make Atlantic salmon eggs available year round. We are not currently capable of producing AquAdvantage Salmon eggs on a year-round basis. Currently, we produce AquAdvantage Salmon eggs during the period of January through April of each year. We expect that, with the establishment of our new broodstock facility at our Rollo Bay farm site on Prince Edward Island, we will be able to produce AquAdvantage Salmon eggs year-round.

Competition

There are four major commercial salmonid breeding companies that market proprietary lines of Atlantic salmon eggs, as well as many small producers of salmonid eggs. Additionally, many of the largest Atlantic salmon producers maintain their own egg production capabilities. We do not believe, however, that we have a direct competitor for genetically modified, growth-enhanced Atlantic salmon eggs.

The industry and market for farmed Atlantic salmon is dominated by a group of large, multinational corporations with entrenched distribution channels, as discussed in the section of this prospectus titled “Business–The Aquaculture Industry–Major Producers.” While we do not believe that we have a direct competitor for genetically modified, growth-enhanced Atlantic salmon, we do believe that our product will need to compete with non-genetically modified salmon.

Research and Development

As of October 31, 2017, we had twenty-one employees dedicated to research and development. Our primary research and development operations are located in our owned hatchery on Prince Edward Island. In addition, we contract some research activities to the Center for Aquaculture Technologies, Inc., our former research group, which was spun-off and sold to Tethys in 2012. We incurred expenses of $3.4 million in 2016, $3.3 million in 2015, and $3.2 million in 2014 on research and development activities.

In February 2013, we entered into the ECC with Intrexon pursuant to which we are permitted to use Intrexon's UltraVector® and other technology platforms to develop and commercialize additional genetically modified traits in finfish for human consumption. The ECC grants us a worldwide license to use certain patents and other intellectual property of Intrexon in connection with the research, development, use, importing, manufacture, sale, and offer for sale of products involving DNA administered to finfish for human consumption. This license is exclusive with respect to any development, selling, offering for sale, or other commercialization of developed products, and otherwise is non-exclusive. Under the ECC and subject to certain exceptions, we are responsible for, among other things, the performance of the program, including development, commercialization, and certain aspects of manufacturing developed products. Among other things, Intrexon is responsible for the costs of establishing manufacturing capabilities and facilities for the bulk manufacture of certain products developed under the program; certain other aspects of manufacturing; costs of discovery-stage research with respect to platform improvements; and costs of filing, prosecution, and maintenance of Intrexon's patents. We agreed to pay Intrexon, on a quarterly basis, 16.66% of the gross profits calculated for each developed product. We also agreed to pay Intrexon 50% of the quarterly revenue obtained from a sublicensee in the event of a sublicensing arrangement. In addition, we agreed to reimburse Intrexon for the costs of certain services provided by Intrexon.

Since its execution in February 2013, we and Intrexon have commenced development on two projects under the ECC, both of which are in their early stages. The first project, which commenced in June 2013, is a research effort to determine the effectiveness of utilizing precise genome engineering technology to produce desirable features in a finfish. The second project, which commenced in September 2013, is a research effort to determine if the use of germ cells to perform gene modification is effective in reducing the time required to develop new traits in finfish. If these technology-enabling projects prove to be successful, they will allow us to add additional beneficial traits to AquAdvantage Salmon.

In addition to the projects being undertaken under the ECC, we are exploring the potential development of a range of additional products, including a second generation of AquAdvantage Salmon to ensure 100% sterility, a line of AquAdvantage® Trout that grows faster than traditional rainbow trout, molecular sterility systems to provide an improved means of sterility for farmed fish, infection control in shrimp, and improved methods for generating transgenic fish.

Our research and development expenditures are directly tied to the number of projects that we choose to undertake. We expect to increase our development efforts as we commence additional projects either in-house or under our ECC with Intrexon. We expect that these projects could result in an increase in our research and development expenditures in the range of 5% to 10% per year.

Employees

As of October 31, 2017, we had thirty-five employees. None of our employees are represented by a labor union, and we consider our employee relations to be good.

Properties

Our corporate headquarters are located in Maynard, Massachusetts and consists of approximately 3,500 square feet of office space under a lease that expires in March 2023 and we operate a demonstration farm for AquAdvantage Salmon in Panama under a lease that expires in May 2018. On Prince Edward Island, Canada, we own both a hatchery in Fortune and a salmon farm, consisting of a hatchery, a grow-out facility and a broodstock facility, in Rollo Bay, and we own a production grow-out facility in Albany, Indiana. 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-Contractual Obligations.

Legal Proceedings

Legal Challenge in Canada to Significant New Activity Notice

On January 16, 2014, an application was filed by Ecology Action Centre and Living Oceans Society with the Canadian Federal Court seeking judicial review to declare invalid the decision by the Canadian Minister of the Environment to publish in the Canada Gazette a SNAN with respect to AquAdvantage Salmon. The Canadian Minister of the Environment, the Canadian Minister of Health, and AQUA Bounty Canada Inc., our Canadian subsidiary, were listed as respondents on the application. The plaintiffs alleged that the Canadian Minister of the Environment inappropriately waived a requirement of the Canadian Environmental Protection Act ("CEPA") to provide certain prescribed information for an assessment under CEPA. The plaintiffs sought an order from the court that the minister acted unlawfully and without jurisdiction by publishing notice of the SNAN with respect to AquAdvantage Salmon in the *Canada Gazette*, that the SNAN was invalid and unlawful, and, in the alternative, that the minister acted unreasonably in exercising her discretion.

In December 2015, the Canadian Federal Court ruled that the decision by the Ministers of Environment and Health to allow production of AquAdvantage Salmon in Canada for commercial use was reasonable and made in the manner prescribed by the CEPA, and accordingly dismissed the entire application brought before it. The petitioners appealed this ruling, and, in October 2016, the Canadian Federal Court of Appeal dismissed the appeal.

Lawsuit Against the FDA Approval of NADA

On March 30, 2016, a coalition of NGOs filed a complaint against the FDA, the United States Fish and Wildlife Service, and related individuals for their roles in the FDA approval of the NADA for AquAdvantage Salmon. The coalition, including the Centre for Food Safety and Friends of the Earth, claims that the FDA had no statutory authority to regulate genetically modified animals, and, if it did, that the agency failed to 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. This lawsuit is currently in the discovery phase of litigation.

Other than as set forth above, 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.

Recent Events

On February 22, 2016, we executed an unsecured convertible debt facility with Intrexon to provide us with up to $10.0 million (the "Debt Facility"). The debt carried an interest rate of 10%, had a maturity of March 1, 2017, and could be converted into shares of our common stock at a price of 690 U.K. pence per share using the British pound sterling to U.S. dollar exchange rate, as reported on Reuters, as of the business day prior to the conversion. The entire $10.0 million (plus accrued interest) of the Debt Facility was converted into 1,212,908 shares of our common stock on December 16, 2016.

Our common stock was listed on the Alternative Investment Market ("AIM"), the London Stock Exchange's international market for smaller growing companies, from 2006 through May 31, 2017 initially under the symbol "ABTX" and, commencing in 2014, under the symbol "ABTU". Effective June 1, 2017, we voluntarily delisted our common stock from AIM. On January 18, 2017, we sold 2,421,073 shares of our common stock to Intrexon, our controlling shareholder, for proceeds of approximately $25 million. Following the closing of this sale, Intrexon distributed 1,776,557 shares of our common stock that it held prior to the closing via a share dividend to its shareholders. On January 19, 2017, our common stock began "regular way" trading on the Nasdaq Capital Market.

Management is evaluating several paths to revenue generation that follow different timelines, including production of our fish at our existing farm sites in Panama, Indiana, Rollo Bay and additional facilities in North America; sale of AquAdvantage Salmon eggs to Atlantic salmon farmers; and partnerships or licensing agreements. Depending on which path or combination of paths is chosen, we expect only modest revenues during 2017 and 2018, with more significant revenues once our Indiana and Rollo Bay facilities are in full production.

MANAGEMENT

Directors and Executive Officers

The following table sets forth certain information regarding our directors and executive officers as of October 31, 2017:

Name	Age	Position(s)
Richard J. Clothier	72	Chairman
Jack A. Bobo	51	Director
Christine St.Clare	67	Director
Richard L. Huber	80	Director
Rick Sterling	53	Director
James C. Turk, Jr.	61	Director
Ronald L. Stotish	68	Director, Chief Executive Officer and President
David A. Frank	57	Chief Financial Officer and Treasurer
Alejandro Rojas	55	Chief Operating Officer, AquaBounty Farms
Christopher Martin	51	General Counsel and Corporate Secretary

Our board of directors is currently composed of seven members. Our directors are elected for a one-year term to hold office until the next annual general meeting of our shareholders or until removed from office in accordance with our Third Amended and Restated Certificate of Incorporation and our Amended and Restated Bylaws. Certain of our directors were elected pursuant to board composition provisions of our Relationship Agreement with Intrexon, which is described in the section entitled "Certain Relationships and Related Party Transactions—Agreements with Intrexon—Relationship Agreement." Our executive officers are elected by our Board of Directors and hold office until removed by the Board of Directors, and until their successors have been duly elected and qualified or until their earlier resignation, retirement, removal, or death.

Richard J. Clothier. Mr. Clothier has served as Chairman of the Board of Directors of AquaBounty since April 2006. He also serves as the Chairman of Robinson Plc and has done so since 2004. Previously, he was Chairman of Spearhead International Ltd from 2005 to 2015, and of Exosect Ltd from 2013 to 2015. Mr. Clothier retired as Group Chief Executive of PGI Group Plc, an international agricultural products producer, following 20 years with Dalgety Plc, where he was chief executive officer of the genetics firm Pig Improvement Company until 1992 and then Group Chief Executive Officer until 1997. He holds a Bachelor of Science in Agriculture from Natal University and attended the Advanced Management Program at Harvard Business School. Mr. Clothier's extensive experience, both as an executive in the food industry and as a director of public and private companies, provides considerable operating, strategic, and policy knowledge to our Board of Directors.

Jack A. Bobo. Mr. Bobo joined the Board of Directors of AquaBounty in November 2015. He has significant expertise in the analysis and communication of global trends in biotechnology, food, and agriculture to audiences around the world and is currently Senior Vice-President and Chief Communications Officer of Intrexon Corporation, a position he has held since July 2015. He was previously at the U.S. Department of State, where he worked for 13 years, most recently as Senior Advisor for Food Policy following his positions as Senior Advisor for Biotechnology and Chief, Biotechnology and Textile Trade Division. Prior to his career at the U.S. Department of State, Mr. Bobo was an attorney at Crowell & Moring, LLP. He received his Juris Doctor from Indiana University School of Law and a Masters in Environmental Science from Indiana University School of Public and Environmental Affairs. Mr. Bobo's knowledge of our industry and public policy and his executive leadership experience make him well qualified to serve as a director.

Christine St.Clare. Ms. St.Clare joined the Board of Directors of AquaBounty in May 2014. She retired as a partner of KPMG LLP in 2010, after a 35 year career, where she served a four-year term on the firm's board of directors and chaired the audit and finance committee. While at KPMG, Ms. St.Clare worked as an Audit Partner

serving publicly-held companies until 2005 when she transferred to the Advisory Practice, serving in the Internal Audit, Risk and Compliance practice until her retirement. She currently serves on the board of Fibrocell Science, Inc., a company that specializes in the development of personalized biologics, and formerly served on the board of Polymer Group, Inc., a global manufacturer of engineered materials. Ms. St.Clare has a Bachelor of Science in Accounting from California State University at Long Beach and has been a licensed Certified Public Accountant in California, Texas, and Georgia. Ms. St.Clare's background in accounting and support of publicly held companies, as well as her experience with biotechnology, makes her well suited for service on our Board of Directors.

Richard L. Huber. Mr. Huber joined the Board of Directors of AquaBounty after our public offering on the London Stock Exchange's Alternative Investment Market ("AIM") in 2006. Mr. Huber is the former Chairman, President, and Chief Executive Officer of Aetna, a major U.S. health insurer, and is currently an independent investor in a number of companies operating in a wide range of businesses, mainly in South America. Following a 40-year career in the financial services industry, Mr. Huber now serves as a director of Invina, SA, a non-public wine producer in Chile. Previously he served on the boards of Gafisa, the largest integrated residential housing developer in Brazil, and Antarctic Shipping, SA of Chile. He holds a Bachelor of Arts in Chemistry from Harvard University. Mr. Huber brings unique knowledge and experience in strategic planning, organizational leadership, accounting, and legal and governmental affairs to our Board of Directors.

Rick Sterling. Mr. Sterling joined the Board of Directors of AquaBounty in September 2013. He is the Chief Financial Officer of Intrexon Corporation, a position he has held since 2007. Prior to joining Intrexon, he was with KPMG LLP, where he worked in the audit practice for over 17 years, with a client base primarily in the healthcare, technology, and manufacturing industries. Mr. Sterling's experience includes serving clients in both the private and public sector, including significant experience with SEC filings and compliance with the Sarbanes-Oxley Act. He has a Bachelor of Science in Accounting and Finance from Virginia Tech and is a licensed Certified Public Accountant. Mr. Sterling's background in audit and finance, as well as his experience with technology companies, make him well suited for service on our Board of Directors.

James C. Turk. Jr. Mr. Turk joined the Board of Directors of AquaBounty in February 2013. Mr. Turk has served as a partner in the law firm Harrison, Turk & Huntington, P.C. since 1987, having practiced two years before that with other firms. He has previously served as a member of the board of directors for multiple companies and foundations including Intrexon Corporation, the New River Community College Education Foundation, the Virginia Student Assistance Authorities and Synchrony Inc. before it was acquired by Dresser-Rand in January, 2012. He presently serves as a member of Roanoke/New River Valley Advisory Council of SunTrust Bank, a director of the Virginia Tech Athletic Foundation and a member of the Roanoke College President's advisory board. Mr. Turk received a Bachelor of Arts from Roanoke College and a Juris Doctor from Cumberland School of Law at Samford University. Mr. Turk's legal background and his experience on multiple boards make him well qualified for service on our Board of Directors.

Ronald L. Stotish, Ph.D., Chief Executive Officer and President. Dr. Stotish was appointed Executive Director, President, and Chief Executive Officer of AquaBounty in May 2008. He joined AquaBounty in 2006 as Vice-President for Regulatory Affairs and, most recently, was Senior Vice-President for R&D and Regulatory Affairs. Prior to joining AquaBounty, Dr. Stotish was Executive Vice-President for R&D at MetaMorphix, Inc. He has served as Vice-President for Pharmaceutical R&D at Fort Dodge Animal Health and held a variety of positions at American Cyanamid. He began his career in research at Merck & Co. Dr. Stotish has degrees in biochemistry and over 40 years' experience in the discovery, development, and commercialization of new animal health products. Dr. Stotish has a Bachelor of Science degree from Pennsylvania State University and a Master of Science and a Ph.D. from Rutgers University.

David A. Frank, M.B.A. Chief Financial Officer and Treasurer. Mr. Frank was appointed Chief Financial Officer and Treasurer of AquaBounty in October 2007. Previously he served as President and General Manager of TekCel LLC, a subsidiary of Magellan Biosciences, after serving as Magellan's Chief Financial Officer since

the company's founding in 2004 and as TekCel's Chief Financial Officer. Mr. Frank has over 30 years of financial management experience, including as Chief Financial Officer of SmartEnergy, an independent energy supplier, as Corporate Controller for Moldflow Corporation, and in financial roles at PerSeptive Biosystems, Inc., Lotus Development Corporation, Apollo Computer, Inc., and Honeywell International, Inc. He has a Bachelor of Science in finance and accounting from Boston College and a Masters of Business Administration from Babson College.

Alejandro Rojas, D.V.M. Chief Operating Officer, AquaBounty Farms. Dr. Rojas joined AquaBounty as the Chief Operating Officer, AquaBounty Farms in February 2014. He formerly was the Production and Technical Manager for Marine Harvest from 1988 to 2000, where he was responsible for operations and the production of salmonids in Chile. He was also responsible for managing Quality Control Labs, Environmental Programs, and Fish Health Programs. Dr. Rojas has a doctorate in Veterinary Medicine and a Bachelor of Science degree from the Universidad Austral de Chile and for the past 14 years has been a Technical Advisor and Consultant to numerous global aquaculture and biotech companies working with marine fish, including salmon, seabass, seabream, and barramundi. His areas of expertise include benchmarking and market studies, technical and economic analysis for M&A activities, new species development in Latin America, the Middle East, and Africa, and consulting on fish production, aquatic health, environment, and biosecurity programs to private companies and governments.

Christopher Martin, J.D. General Counsel and Corporate Secretary. Mr. Martin has served as our General Counsel since June 2015 and as our Corporate Secretary since July 2015. Prior to joining AquaBounty, he was Assistant General Counsel at athenahealth, Inc. from 2012 to 2014 and Senior Corporate Counsel from 2008 to 2012. He also served as Corporate Counsel at LeMaitre Vascular, Inc. from 2006 to 2008 and practiced in the areas of commercial, corporate, finance, and intellectual property law with Hemenway & Barnes LLP in Boston and Cummings & Lockwood LLC in Connecticut. Mr. Martin holds a Bachelor of Arts from Stanford University and a Juris Doctor from the University of California, Berkeley (Boalt Hall).

Director Independence

As required by the Nasdaq listing rules, our Board of Directors evaluates the independence of its members at least once annually and at other appropriate times when a change in circumstances could potentially impact the independence or effectiveness of one of our directors.

In October 2016, our Board of Directors undertook a review of the composition of our Board of Directors and its committees and the independence of each director. Based upon information requested from and provided by each director concerning his or her background, employment, and affiliations, including family relationships, our Board of Directors has determined each of Messrs. Clothier, Huber, and Turk and Ms. St.Clare is an "independent director" as defined under Nasdaq Listing Rule 5605(a)(2). The remaining members of our Board of Directors may not satisfy these "independence" definitions because they are employed by AquaBounty or have been chosen by and/or are affiliated with our controlling stockholder, Intrexon, in a non-independent capacity. Our Board of Directors has three standing committees: the Audit Committee, the Compensation Committee, and the NCG Committee. As discussed below, each member of the Audit Committee satisfies the special independence standards for such committee established by the SEC and Nasdaq. Because we are eligible to be a "controlled company" within the meaning of Nasdaq Listing Rule 5615(c), and our Board of Directors has chosen to rely on this exception, we are exempt from certain Nasdaq listing rules that would otherwise require us to have a majority independent board and fully independent standing nominating and compensation committees. We determined that we are such a "controlled company" because Intrexon holds more than 50% of the voting power for the election of our directors. If Intrexon's voting power were to fall below this level, however, we would cease to be permitted to rely on the controlled company exception and would be required to have a majority independent board and fully independent standing nominating and compensation committees.

Board Leadership Structure and Role of the Board in Risk Oversight

Our Board of Directors understands that board structures vary greatly among U.S. public corporations, and our Board of Directors does not believe that any one leadership structure is more effective at creating long-term stockholder value. Our Board of Directors believes that an effective leadership structure could be achieved either by combining or separating the Chairman and Chief Executive Officer positions, so long as the structure encourages the free and open dialogue of competing views and provides for strong checks and balances. Specifically, the Board of Directors believes that, to be effective, the governance structure must balance the powers of the Chief Executive Officer and the independent directors and ensure that the independent directors are fully informed, able to discuss and debate the issues that they deem important, and able to provide effective oversight of management.

Currently, Dr. Stotish serves as our Chief Executive Officer and President, and Mr. Clothier serves as our Chairman of the Board of Directors. Our Board of Directors believes that this leadership structure, which separates the Chairman and Chief Executive Officer roles, is appropriate for the company at this time because it allows Dr. Stotish to focus on operating and managing the company following our transition to becoming a public company. At the same time, Mr. Clothier can focus on leadership of the Board of Directors, including calling and presiding over Board meetings and executive sessions of the independent directors, preparing meeting agendas in collaboration with the Chief Executive Officer, serving as a liaison and supplemental channel of communication between independent directors and the Chief Executive Officer, and serving as a sounding board and advisor to the Chief Executive Officer. Nevertheless, the Board of Directors believes that "one size" does not fit all, and the decision of whether to combine or separate the positions of Chairman and Chief Executive Officer will vary from company to company and depend upon a company's particular circumstances at a given point in time. Accordingly, the Board of Directors will continue to consider from time to time whether the Chairman and Chief Executive Officer positions should be combined based on what the Board of Directors believes is best for our company and stockholders.

Our Board of Directors is primarily responsible for assessing risks associated with our business. However, our Board of Directors delegates certain of such responsibilities to other groups. The Audit Committee is responsible for reviewing with management our company's policies and procedures with respect to risk assessment and risk management, including reviewing certain risks associated with our financial and accounting systems, accounting policies, investment strategies, regulatory compliance, insurance programs, and other matters. In addition, under the direction of our Board of Directors and certain of its committees, our legal department assists in the oversight of corporate compliance activities. The Compensation Committee also reviews certain risks associated with our overall compensation program for employees to help ensure that the program does not encourage employees to take excessive risks.

Board Committees

Our Board of Directors has determined that a board consisting of between six and ten members is appropriate and has currently set the number at seven members. Our Board of Directors will evaluate the appropriate size of our Board of Directors from time to time. Our Board of Directors has three standing committees: the Audit Committee, the Compensation Committee, and the NCG Committee, each of which operate pursuant to a charter adopted by our Board of Directors.

During 2016, each director attended or participated in 75% or more of the aggregate of (i) the total number of meetings of the Board of Directors and (ii) the total number of meetings held by all committees of the Board of Directors on which such director served. We do not have a formal policy with regard to board members' attendance at annual meetings of security holders, but encourage our directors to attend annual meetings. All directors attended our annual meetings in 2016 and 2017. Members of the Board of Directors and its committees also consulted informally with management from time to time. Additionally, non-management Board members met in executive sessions without the presence of management periodically during 2016 and 2017.

Audit Committee. Messrs. Huber and Turk and Ms. St.Clare serve as members of our Audit Committee, and Ms. St.Clare serves as its chair. Each member of the Audit Committee satisfies the special independence standards for such committee established by the SEC and Nasdaq, as applicable. Ms. St.Clare is an "audit committee financial expert," as that term is defined by the SEC in Item 407(d) of Regulation S-K. Stockholders should understand that this designation is an SEC disclosure requirement relating to Ms. St.Clare's experience and understanding of certain accounting and auditing matters, which the SEC has stated does not impose on the director so designated any additional duty, obligation, or liability than otherwise is imposed generally by virtue of serving on the Audit Committee and/or our Board of Directors. Our Audit Committee is responsible for, among other things, oversight of our independent auditors and the integrity of our financial statements. Our Audit Committee held five meetings in 2016 and has held five meetings to date in 2017.

Compensation Committee. Messrs. Huber and Sterling serve as members of our Compensation Committee, and Mr. Huber serves as its chair. As discussed above, because we are eligible to be a "controlled company" within the meaning of Nasdaq Listing Rule 5615(c), and our Board of Directors has chosen to rely on this exception, we are exempt from certain Nasdaq listing rules that would otherwise require us to have a fully independent Compensation Committee. Our Compensation Committee is responsible for, among other things, establishing and administering our policies, programs, and procedures for compensating our executive officers and board of directors. Our Compensation Committee held two meetings in 2016 and has held one meeting to date in 2017.

Compensation Committee Interlocks and Insider Participation. None of our executive officers serves, or in the past has served, as a member of our Board of Directors or Compensation Committee, or other committee serving an equivalent function, of any entity that has one or more executive officers who serve as members of our Board of Directors or our Compensation Committee. None of the members of our Compensation Committee is also an officer or employee of AquaBounty, nor have any of them ever been an officer or employee of AquaBounty.

Nominating and Corporate Governance ("NCG") Committee. Mr. Clothier is the sole member of our NCG Committee and serves as its chair, inviting other directors to participate in meetings of the Committee as necessary. As discussed above, because we are eligible to be a "controlled company" within the meaning of Nasdaq Listing Rule 5615(c), and our Board of Directors has chosen to rely on this exception, we are exempt from certain Nasdaq listing rules that would otherwise require us to have a fully independent NCG Committee. Our NCG Committee is responsible for, among other things, evaluating new director candidates and incumbent directors and recommending directors to serve as members of our Board committees. Our NCG Committee held one meeting in 2016 and has held one meeting to date in 2017.

Director Nominees. Our Board of Directors believes that the Board should be composed of individuals with varied, complementary backgrounds who have exhibited proven leadership capabilities within their chosen fields. Directors should have the ability to quickly grasp complex principles of business and finance, particularly those related to our industry. Directors should possess the highest personal and professional ethics, integrity, and values and should be committed to representing the long-term interests of our stockholders. When considering a candidate for director, the NCG Committee will take into account a number of factors, including, without limitation, the following: depth of understanding of our industry; education and professional background; judgment, skill, integrity, and reputation; existing commitments to other businesses as a director, executive, or owner; personal conflicts of interest, if any; diversity; and the size and composition of the existing Board. Although the Board of Directors does not have a policy with respect to consideration of diversity in identifying director nominees, among the many other factors considered by the NCG Committee are the benefits of diversity in board composition, including with respect to age, gender, race, and specialized background. When seeking candidates for director, the NCG Committee may solicit suggestions from incumbent directors, management, stockholders, and others. Additionally, the NCG Committee may use the services of third-party search firms to assist in the identification of appropriate candidates. The NCG Committee will also evaluate the qualifications of all candidates properly nominated by stockholders, in the same manner and using the same criteria. A stockholder desiring to nominate a person for election to the Board of Directors must comply with the advance notice procedures of our Amended and Restated Bylaws.

Director Compensation

Through December 31, 2016, the Chairman of our Board of Directors received annual compensation of £40,000 (approximately $49,344 using the pound sterling to U.S. Dollar spot exchange rate of 1.2336 published in The Wall Street Journal as of December 31, 2016)), payable in one annual installment. He also received an annual grant of restricted common shares equal to £20,000 (approximately $27,892) (based on the fair market value on the date of grant), with vesting over three years.

Through December 31, 2016, all non-employee directors, except for directors who are employees of Intrexon per the Relationship Agreement described under "Related Party Transactions, Policies and Procedures-Other Agreements with Intrexon-Relationship Agreement" received annual compensation of $30,000, payable in one annual installment. Board of Directors committee chairs received $10,000 per annum, and members of a board committee, except for directors employed and appointed by Intrexon per the Relationship Agreement, received $5,000 per annum, both payable annually. All non-employee directors, except for directors employed and appointed by Intrexon per the Relationship Agreement, received an annual grant of options to purchase 2,500 shares of our common stock (with an exercise price equal to the fair market value on the date of grant), with vesting after one year.

The following table discloses all compensation provided to the non-employee directors for the most recently completed fiscal year ending December 31, 2016:

Director Summary Compensation Table

Name	Fees earned or paid in cash ($)	Stock Awards ($)	Option Awards ($)	Total ($)
R. Clothier (1)	49,344	27,892		77,236
J. Bobo (2)	—			—
C. St.Clare (3)	45,000		11,153	56,153
R. Huber (3)	45,000		11,153	56,153
R. Sterling (2)	—			—
J. Turk (3)	35,000		11,153	46,153
Total	174,344	27,892	33,459	235,695

(1) As of December 31, 2016, Mr. Clothier held 4,169 unvested restricted common shares.
(2) Messrs. Bobo and Sterling are employees of Intrexon and do not receive any compensation from AquaBounty at this time.
(3) As of December 31, 2016, each of Ms. St. Clare, Mr. Huber, and Mr. Turk held an unexercised option to purchase 5,800, 11,400 and 6,600 common shares, respectively.

Code of Business Conduct and Ethics

Our Code of Business Conduct and Ethics applies to all of our outside directors, officers, and employees, including, but not limited to, our Chief Executive Officer and Chief Financial Officer. The Code of Business Conduct and Ethics constitutes our "code of ethics" within the meaning of Section 406 of the Sarbanes-Oxley Act and is our "code of conduct" within the meaning of the Nasdaq listing standards.

Corporate Governance Principles

We are committed to having sound corporate governance principles. Having such principles is essential to maintaining our integrity in the marketplace. Our Code of Business Conduct and Ethics and the charters for each of the Audit, Compensation, and Nominating and Corporate Governance Committees are available on the investor relations section of our corporate website (www.aquabounty.com). A copy of our Code of Business Conduct and Ethics and the committee charters may also be obtained upon request to Corporate Secretary, AquaBounty Technologies, Inc., 2 Mill & Main Place, Suite 395, Maynard, Massachusetts 01754.

EXECUTIVE COMPENSATION

AquaBounty Technologies, Inc. is an "emerging growth company," as defined under the Jumpstart Our Business Startups Act of 2012. As an emerging growth company, under Securities and Exchange Commission ("SEC") rules, we are not required to include a Compensation Discussion and Analysis section in this prospectus and have elected to comply with the reduced disclosure requirements applicable to emerging growth companies. In preparing to become a public company, we conducted a thorough review of all elements of our executive and director compensation program, including the function and design of our equity incentive programs. We are evaluating the need for revisions to our executive compensation program to ensure our program is competitive with those of the companies with which we compete for executive talent and is appropriate for a public company.

Executive Officers

The tables and discussion below present compensation information for our chief executive officer and our two other most highly compensated officers for the year ended December 31, 2016, whom we refer to collectively as our named executive officers. These officers are:

Name	Age	Positions
Ronald L. Stotish	68	Chief Executive Officer and President
David A. Frank	56	Chief Financial Officer and Treasurer
Alejandro Rojas	55	Chief Operating Officer, AquaBounty Farms

Summary Compensation Table

The following table provides certain summary information concerning the compensation earned by our named executive officers in 2016 and the fiscal years ended December 31, 2015 and 2014.

Name and Position	Year	Salary ($) (1)	Bonus ($) (2)	Stock Awards ($)	Option Awards ($) (3)	Non-Equity Incentive Plan Compensation ($)	All other Compensation ($) (4)	Total ($)
R. Stotish	2016	350,659	116,424		—		7,505	474,588
CEO and President	2015	335,500	84,000		—		7,206	426,706
	2014	327,563	—		120,706		6,574	454,843
D. Frank	2016	263,172	66,250		—		8,109	337,531
CFO and Treasurer	2015	245,625	—		—		8,831	254,456
	2014	238,625	—		120,706		6,565	365,896
A. Rojas	2016	215,000	5,000		—		4,965	224,965
COO, AquaBounty Farms	2015	200,000	5,000		—		3750	208,750
	2014	183,333	25,000		120,706		—	329,039

(1) Represents salaries before any employee contributions under our 401(k) plan.
(2) Represents discretionary cash incentive awards paid for performance during the 2016, 2015, and 2014 fiscal years.
(3) The Option Awards included for each individual consists of stock option awards granted under the AquaBounty Technologies Inc. 2006 Equity Incentive Plan. The value for each of these awards is its grant date fair value calculated by multiplying the number of shares subject to the award by the fair value of the stock option award on the date such award was granted, computed in accordance with Financial Accounting Standards Board ("FASB") Accounting Standards Codification Topic 718. The assumptions used in calculating the grant date fair value are set forth in the notes to our consolidated financial statements included elsewhere in this prospectus.

In 2016, we paid base salaries to Dr. Stotish, Mr. Frank, and Dr. Rojas of $352,800, $265,000, and $218,000, respectively. As of December 31, 2015, the base salaries of Dr. Stotish, Mr. Frank, and Dr. Rojas were $336,000,

$246,000, and $200,000, respectively. Base salaries are used to recognize the experience, skills, knowledge, and responsibilities required of all of our employees, including our named executive officers. Certain of our named executive officers are currently party to an employment agreement that provides for the continuation of certain compensation upon termination of employment. See "–Employment Agreements."

Our Board of Directors may, at its discretion, award bonuses to our named executive officers from time to time. We typically establish bonus targets for our named executive officers and evaluate their performance based on the achievement of specified goals and objectives by each individual employee. Our management may propose bonus awards to the Compensation Committee of the Board of Directors primarily based on such achievements. Our Board of Directors makes the final determination of the eligibility requirements for and the amounts of such bonus awards. For the fiscal year ended December 31, 2016, the bonus award for Dr. Stotish was $84,000, which represents 25% of his base salary, awarded for his achievements in progressing the approval process for AquAdvantage Salmon with the Food and Drug Administration ("FDA"). Mr. Frank received a bonus award of $66,250, which represents 25% of his base salary, awarded for his achievements in completing the SEC registration process for the Company's common shares. Dr. Rojas received a bonus award of $5,000 for his achievements in progressing the planning of our North American operations strategy.

Although we do not have a formal policy with respect to the grant of equity incentive awards to our executive officers, or any formal equity ownership guidelines applicable to them, we believe that equity grants provide our executives with a strong link to our long-term performance, create an ownership culture, and help to align the ownership interests of our executives and our stockholders. In addition, we believe that equity grants with a time-based vesting feature promote executive retention because this feature incentivizes our executive officers to remain in our employment during the vesting period.

Outstanding Equity Awards at Fiscal Year End

The following table provides certain summary information concerning outstanding equity awards held by our named executive officers as of December 31, 2016.

		Option Awards (1)			
		Number of securities underlying unexercised options			
Name and Position	Grant Date	Exercisable	Unexercisable	Option Exercise Price	Option Expiration Date
R. Stotish	July 1, 2009	62,334		$ 3.30	June 30, 2019
CEO and President	January 11, 2011	16,667		$ 6.90	January 10, 2021
	January 20, 2014	6,547	120	$ 23.40	January 20, 2024
D. Frank	July 1, 2009	15,000		$ 3.30	June 30, 2019
CFO and Treasurer	January 11, 2011	5,000		$ 6.90	January 10, 2021
	April 27, 2013	6,667		$ 7.50	April 27, 2023
	January 20, 2014	6,547	120	$ 23.40	January 20, 2024
A. Rojas	January 20, 2014	6,547	120 (2)	$ 23.40	January 20, 2024
COO, AquaBounty Farms					

(1) Each option was granted pursuant to our 2006 Equity Incentive Plan. Unless otherwise set forth below, each option vests over three years on a daily basis following the grant date.

Employment Agreements

We have formal employment agreements with Dr. Stotish, Dr. Rojas and Mr. Frank. Each agreement provides for the payment of a base salary, an annual bonus determined at the discretion of our Board of Directors based on achievement of financial targets, and other performance criteria and, for Dr. Stotish, a one-time grant of 3,000 stock options.

Each agreement will remain in effect unless and until terminated in accordance with the terms and conditions set forth in the agreement. Mr. Frank's agreement provides that employment may be terminated by either us or the employee after giving the other not less than twelve months' notice. Dr. Rojas' agreement provides that employment may be terminated by us after giving to Dr. Rojas not less than twelve months' notice, and by Dr. Rojas after giving to us not less than one month's notice. During these respective notice periods, we have the right to terminate employment prior to expiration of the notice period by paying the employee a sum equal to his basic salary and benefits during the notice period. Dr. Stotish's agreement does not contain termination notice requirements applicable to his current employment.

In addition, under each agreement, we may terminate the employee's employment without notice or payment at any time for cause. For these purposes, "cause" means any of the following:

- performance by the employee of his duties in a manner that is deemed consistently materially unsatisfactory by our Board of Directors in its sole and exclusive discretion;
- willful and material failure or refusal by the employee to perform his duties under the employment agreement (other than by reason of the employee's death or disability);
- certain breaches or nonobservance by the employee of the provisions of the employment agreement or directions of our Board of Directors or of rules issued by a stock exchange on which our securities are listed;
- any intentional act of dishonesty, fraud or embezzlement by Employee or the admission or conviction of, or entering of a plea of nolo contendere by, Employee of any felony or any lesser crime involving moral turpitude, dishonesty, fraud, embezzlement or theft;
- any negligence, willful misconduct, or personal dishonesty of the employee resulting in a good faith determination by our Board of Directors of a loss to us or a damage to our reputation;
- any failure by the employee to comply with our policies or procedures to a material extent;
- the employee commits any act of deliberate unlawful discrimination or harassment;
- the employee becomes of unsound mind or a patient for the purposes of any law relating to mental health;
- the employee becomes prohibited by law from being an employee; or
- in the case of Dr. Stotish, the employee is adjudged bankrupt or enters into any composition or arrangement with or for the benefit of his creditors.

Each agreement also contains confidentiality and noncompetition provisions.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires that our executive officers and directors, and persons who own more than 10% of a registered class of our equity securities, file reports of ownership and changes in ownership (Forms 3, 4, and 5) with the SEC. Executive officers, directors, and greater than 10% beneficial owners are required to furnish us with copies of all of the forms that they file.

Based solely on our review of these reports or written representations from certain reporting persons, we believe that during the fiscal year ended December 31, 2016, our officers, directors, greater than 10% beneficial owners, and other persons subject to Section 16(a) of the Exchange Act filed on a timely basis all reports required of them under Section 16(a) so that there were no late filings of any Form 3 or Form 5 reports or late Form 4 filings with respect to transactions relating to our common stock.

Employee Benefit Plans

The following table provides information as of December 31, 2016, with respect to the shares of our common stock that may be issued under our existing equity compensation plans:

	Number of securities to be issued upon exercise of outstanding options, warrants, and rights	Weighted-average exercise price of outstanding options, warrants, and rights	Number of securities remaining available for future issuance under equity compensation plans(1)
Equity compensation plans approved by stockholders	185,591	$ 7.89	450,000
Equity compensation plans not approved by stockholders	0	$ —	—
Total	185,591	$ 7.89	450,000

(1) The 2006 Plan terminated on March 18, 2016, and there are no shares of common stock reserved for future awards under the 2006 Plan. Our 2016 Plan was adopted by our Board of Directors and approved by stockholders in April 2016. 450,000 shares of common stock are reserved for issuance under the 2016 Plan.

AquaBounty Technologies 2016 Equity Incentive Plan

The AquaBounty Technologies, Inc. 2016 Equity Incentive Plan (the "2016 Plan") was first adopted by our Board of Directors and our stockholders in April 2016. The 2016 Plan provides for the issuance of incentive stock options to our employees and non-qualified stock options and awards of stock appreciation rights, restricted stock, restricted stock units, and other stock awards to our directors, officers, employees, and consultants.

Under the 2016 Plan, we have reserved 450,000 shares of common stock. The number of shares of common stock reserved for issuance is subject to automatic adjustment in the event of a stock split, stock dividend or other change in our capitalization. Shares of common stock underlying any awards that are forfeited, canceled, withheld upon exercise an of option or settlement of an award to cover the exercise price or tax withholding, reacquired by us, or otherwise terminated (other than by exercise) will be added to the shares of common stock available for issuance under the 2016 Plan.

In accordance with the terms of the 2016 Plan, the Compensation Committee of the Board of Directors administers the 2016 Plan and, subject to any limitations, approves the recipients of awards and determines, among other things:

- the number of shares of our common stock covered by options and the dates upon which those options become exercisable;
- the exercise prices of options;
- the duration of options (subject to certain limitations set forth in the plan);
- the methods of payment of the exercise price of options;
- the number of shares of our common stock subject to any restricted stock awards and the terms and conditions of those awards, including the price (if any), restriction period (subject to certain limitations set forth in the plan), and conditions for repurchase (with respect to restricted stock awards);
- the number of shares of our common stock subject to any restricted stock unit awards and the terms and conditions of those awards, including the vesting schedule, the consideration (if any) to be paid by the recipient, and the settlement of the award upon vesting; and
- the number of shares of our common stock subject to any stock appreciation right awards and the terms and conditions of those awards, including the vesting schedule, exercise price, and payment terms (subject to certain limitations set forth in the plan).

In the event of a change in control, as defined in the 2016 Plan, awards under the 2016 Plan may be assumed, continued or substituted by the acquirer, accelerate the vesting of outstanding awards or cancel outstanding awards in exchange for such consideration as the Board, in its discretion, deems appropriate.

Our board of directors may amend or discontinue the 2016 Plan or may amend or cancel outstanding awards, but no such action may adversely affect rights under an award without the holder's consent. The compensation committee is specifically authorized to exercise its discretion to reduce the exercise price of outstanding stock options or stock appreciation rights or effect the repricing of such awards through cancellation and re-grants without stockholder approval. Certain amendments to the 2016 Plan require the approval of our stockholders.

The 2016 Plan will terminate and no incentive stock options may be granted after the date that is ten years from the date the Board approved the 2016 Plan.

AquaBounty Technologies 2006 Equity Incentive Plan

The AquaBounty Technologies, Inc. 2006 Equity Incentive Plan (the "2006 Plan") was first adopted by our Board of Directors and our stockholders in June 2007. The 2006 Plan provided for the issuance of stock options and awards of stock appreciation rights, restricted stock, deferred stock, and other stock awards to our directors, officers, employees, and consultants. In accordance with the terms of the 2006 Plan, the Compensation Committee of the Board of Directors administered the 2006 Plan and, subject to any limitations, approved the recipients of awards and determined, among other things:

- the number of shares of our common stock covered by options and the dates upon which those options become exercisable;
- the exercise prices of options;
- the duration of options (subject to certain limitations set forth in the plan);
- the methods of payment of the exercise price of options;
- the number of shares of our common stock subject to any restricted stock awards and the terms and conditions of those awards, including the price (if any), restriction period (subject to certain limitations set forth in the plan), and conditions for repurchase (with respect to restricted stock awards);
- the number of shares of our common stock subject to any restricted stock unit awards and the terms and conditions of those awards, including the vesting schedule, the consideration (if any) to be paid by the recipient, and the settlement of the award upon vesting; and
- the number of shares of our common stock subject to any stock appreciation right awards and the terms and conditions of those awards, including the vesting schedule, exercise price, and payment terms (subject to certain limitations set forth in the plan).

Under the 2006 Plan, we had reserved 185,591 shares of common stock.

In the event of a change of control, as defined in the 2006 Plan, all awards under the 2006 Plan, subject to the reasonable discretion of the Board of Directors, will become vested and exercisable.

Our board of directors may amend or cancel outstanding awards at any time, but no such action may adversely affect rights under an award without the holder's consent. The 2006 Plan terminated in March 2016.

As of December 31, 2016, there were options to purchase an aggregate of 185,591 shares of our common stock outstanding under the 2006 Plan at a weighted-average exercise price of $7.89 per share. The 2006 Plan terminated on March 18, 2016, and the Board of Directors has ceased making awards under the 2006 Plan; accordingly, there are no shares of our common stock reserved for future awards under the 2006 Plan.

401(k) Plan

We provide an employee retirement plan under Section 401(k) of the Internal Revenue Code (the "401(k) plan"), to all U.S. employees who are eligible employees as defined in the 401(k) plan. Subject to annual limits set by the Internal Revenue Service, we match 50% of eligible employee contributions up to a maximum of 3% of an employee's salary, and vesting in our match is immediate. We made contributions in connection with the 401(k) plan during the years ended December 31, 2016, 2015, and 2014, of $33,422, $29,931, and $24,018, respectively.

Registered Retirement Savings Plan

We also have a Registered Retirement Savings Plan for our Canadian employees. Subject to annual limits set by the Canadian government, we match 50% of eligible employee contributions up to a maximum of 3% of an employee's salary, and vesting in our match is immediate. We made contributions in connection with this plan during the years ended December 31, 2016, 2015, and 2014, of $21,777, $16,274, and $16,566, respectively.

Indemnification of Officers and Directors

We have agreed to indemnify our directors and officers in certain circumstances. See the section of this prospectus titled "Certain Relationships and Related Party Transactions—Agreements with Our Directors and Executive Officers."

Compensation Risk Assessment

We believe that although a portion of the compensation provided to our executive officers and other employees is performance-based, our executive compensation program does not encourage excessive or unnecessary risk taking. This is primarily due to the fact that our compensation programs are designed to encourage our executive officers and other employees to remain focused on both short-term and long-term strategic goals, in particular in connection with our pay-for-performance compensation philosophy. As a result, we do not believe that our compensation programs are reasonably likely to have a material adverse effect on us.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

In addition to the director and executive compensation arrangements discussed above in the sections of this prospectus titled "Management" and "Executive Compensation," we have been a party to the following transactions since January 1, 2014, in which the amount involved exceeded or will exceed $120,000, and in which any director, executive officer or holder of more than 5% of any class of our voting stock, or any member of the immediate family of or entities affiliated with any of them, had or will have a material interest. We also describe below certain transactions and series of similar transactions since January 1, 2014 with our directors, executive officers, holders of more than 5% of any class of our voting securities, or any member of the immediate family of or any entities affiliated with any of the foregoing persons to which we are party.

Agreements with Our Directors and Executive Officers

For more information regarding employment agreements with certain of our executive officers, see the section of this prospectus titled ''Management—Compensation of Directors and Executive Officers—Employment Agreements.''

We have entered into agreements to indemnify our directors and executive officers. These agreements will, among other things, require us to indemnify these individuals for certain expenses (including attorneys' fees), judgments, fines and settlement amounts reasonably incurred by such person in any action or proceeding, including any action by or in our right, on account of any services undertaken by such person on behalf of our company or that person's status as a member of our board of directors to the maximum extent allowed under Delaware law.

Agreements with Intrexon

Stock Purchase Agreement

On November 7, 2016, we entered into a Stock Purchase Agreement with Intrexon Corporation ("Intrexon"), our majority shareholder, pursuant to which we sold to Intrexon 2,421,073 shares of our common stock for proceeds of approximately $25 million. This sale of shares under the Stock Purchase Agreement closed on January 18, 2017, in connection with the distribution of 1,776,557 of such shares by Intrexon to its shareholders.

Exclusive Channel Collaboration Agreement

In February 2013, we entered into an Exclusive Channel Collaboration Agreement with Intrexon (the "ECC"), pursuant to which we are permitted to use certain technology platforms of Intrexon to develop and commercialize additional genetically modified traits in finfish for human consumption. The ECC grants us a worldwide license to use certain patents and other intellectual property of Intrexon in connection with the research, development, use, importing, manufacture, sale, and offer for sale of products involving DNA administered to finfish for human consumption. This license is exclusive with respect to any development, selling, offering for sale, or other commercialization of developed products but otherwise is non-exclusive.

Under the ECC and subject to certain exceptions, we are responsible for, among other things, the performance of the program, including development, commercialization, and certain aspects of manufacturing developed products. Among other things, Intrexon is responsible for the costs of establishing manufacturing capabilities and facilities for the bulk manufacture of certain products developed under the program; certain other aspects of manufacturing; costs of discovery-stage research with respect to platform improvements; and costs of filing, prosecution, and maintenance of Intrexon's patents.

We agreed to pay Intrexon, on a quarterly basis, 16.66% of the gross profits calculated for each developed product. We also agreed to pay Intrexon 50% of the quarterly revenue obtained from a sublicensee in the event of

a sublicensing arrangement. In addition, we agreed to reimburse Intrexon for the costs of certain services provided by Intrexon. The total Intrexon service costs incurred under the ECC during 2016 were approximately $912,000, of which approximately $74,000 was reflected as an account payable in the consolidated balance sheet as of December 31, 2016.

The ECC may be terminated by either party in the event of a material breach by the other. Intrexon may terminate the ECC (a) if we elect not to pursue the development of a "superior animal product" identified by Intrexon or (b) under certain circumstances if we assign our rights under the ECC without Intrexon's consent. We may voluntarily terminate the ECC at any time upon 90 days' written notice to Intrexon. Upon termination of the ECC, we may continue to develop and commercialize any collaboration product that, at the time of termination, (x) is being sold by us, (y) has received regulatory approval, or (z) is the subject of an application for regulatory approval. Our obligation to pay 16.66% of the gross profits and 50% of the quarterly revenue obtained from a sublicensee with respect to these "retained" products will survive termination of the ECC.

Relationship Agreement

In December 2012, we entered into a Relationship Agreement with Intrexon (the "Relationship Agreement"), which sets forth certain matters relating to Intrexon's relationship with us as a major stockholder. The Relationship Agreement was entered into in connection with the acquisition in October 2012 by Intrexon of shares of our common stock constituting 47.56% of our outstanding share capital from Linnaeus Capital Partners B.V. and Tethys Aquaculture Canada, Inc. (doing business as the Center for Aquaculture Technologies Canada) ("Tethys"), our former major stockholders.

Pursuant to the Relationship Agreement, we agreed to increase the size of our Board of Directors from three members to six members and to appoint three nominees of Intrexon ("Intrexon Nominees") as directors with terms expiring at the annual meeting of stockholders held on July 10, 2013. Intrexon nominated Messrs. Thomas Barton, Thomas Kasser, and James Turk to serve as directors. Each was appointed to our Board of Directors on February 14, 2013. In addition, we agreed that, so long as the Relationship Agreement remains in effect and Intrexon and its affiliates together control 25% or more of the voting rights exercisable at meetings of our stockholders, we will (a) nominate such number of Intrexon Nominees as may be designated by Intrexon for election to our Board of Directors at each annual meeting of our stockholders so that Intrexon will have representation on our Board of Directors proportional to Intrexon's percentage shareholding, rounded up to the nearest whole person, and (b) recommend that stockholders vote to elect such Intrexon Nominees at the next annual meeting of stockholders occurring after the date of nomination. Subsequent to entering into the Relationship Agreement, we increased the size of our Board of Directors from six members to seven members, and Intrexon nominated Mr. Sterling to fill the Board vacancy. Mr. Sterling was appointed to our Board of Directors on September 13, 2013. On May 30, 2014, Mr. Barton resigned as a director, and Intrexon nominated Ms. St.Clare to serve as a director. Our Board of Directors approved and appointed Ms. St.Clare to the Board of Directors on May 30, 2014. On October 27, 2015, Mr. Kasser resigned as a director, and Intrexon nominated Mr. Bobo to serve as a director. Our Board of Directors approved and appointed Mr. Bobo to the Board of Directors on October 27, 2015.

In addition, we and Intrexon agreed that, so long as Intrexon and its affiliates control 10% or more of the voting rights exercisable at meetings of our stockholders, for any time period for which Intrexon has reasonably concluded that it is required to consolidate or include our financial statements with its own:

- we will maintain at our principal place of business (i) a copy of our certificate of incorporation and any amendments thereto; (ii) a copy of the Relationship Agreement; (iii) copies of our federal, state, and local income tax returns and reports; and (iv) minutes of our Board of Director and stockholder meetings and actions by written consent in lieu thereof, redacted as necessary to exclude sensitive or confidential information;
- we will keep our books and records consistent with United States generally accepted accounting principles ("U.S. GAAP");

- Intrexon may examine any information that it may reasonably request; make copies of and abstracts from our financial and operating records and books of account; and discuss our affairs, finances, and accounts with us and our independent auditors;
- as soon as available, but no later than ninety days after the end of each fiscal year, we will furnish to Intrexon an audited balance sheet, income statement, and statements of cash flows and stockholders' equity as of and for the fiscal year then ended, together with a report of our independent auditor that such financial statements have been prepared in accordance with U.S. GAAP and present fairly, in all material respects, our financial position, results of operation, and cash flows;
- as soon as available, but no later than forty-five days after the end of each calendar quarter, we will furnish to Intrexon an unaudited balance sheet, income statement, and statements of cash flows and stockholders' equity for such period, in each case prepared in accordance with U.S. GAAP; and
- as requested by Intrexon, but no more than quarterly, we will provide to Intrexon (i) a certificate of our Chief Executive Officer or Chief Financial Officer certifying as to the accuracy of our books and records and the adequacy of our internal control over financial reporting and disclosure controls and procedures and (ii) any information requested by Intrexon for purposes of its compliance with applicable law.

The Relationship Agreement and related documents also provide for certain confidentiality obligations between the two parties. The Relationship Agreement will continue in full force and effect until Intrexon and its affiliates cease to control 10% or more of the voting rights exercisable at meetings of our stockholders.

2014 Subscription Agreement

On March 5, 2014, we entered into a subscription agreement with Intrexon pursuant to which Intrexon agreed to invest approximately $10.0 million in the Company by way of a subscription for 19,040,366 new shares or our common stock at a price of $0.5252 per share. The closing of the subscription occurred on March 20, 2014. The subscription price represented the closing share price of our common stock on the Alternative Investment Market ("AIM") on March 4, 2014, which was the last practical date prior to the signing of the subscription agreement.

2015 Subscription Agreement

On June 24, 2015, we entered into a subscription agreement with Intrexon pursuant to which Intrexon agreed to invest approximately $3.0 million in the Company by way of a subscription for 12,728,044 new shares of our common stock at a price of $0.2357 per share. The closing of the subscription occurred on June 30, 2015. The subscription price represented the closing share price of our common stock on AIM on June 23, 2015, which was the last practical date prior to the signing of the subscription agreement.

2016 Convertible Loan

On February 22, 2016, we executed an unsecured convertible debt facility with Intrexon to provide us with up to $10.0 million (the "Debt Facility"). The terms of the loan included an interest rate of 10%, a maturity date of March 1, 2017, and conversion into shares of our common stock at a price of 690 U.K. pence per share using the British pound sterling to U.S. dollar exchange rate, as reported on Reuters, as of the business day prior to the conversion, representing the closing price of the Company's Ordinary Shares on AIM on February 22, 2016. The entire $10.0 million (plus accrued interest) of the Debt Facility was converted into 1,212,908 shares of our common stock on December 16, 2016.

Participation in this offering

Intrexon, our majority stockholder, has indicated an interest in purchasing a minimum of $7.5 million of shares of our common stock in this offering at the public offering price, if the aggregate proceeds to us from this offering are $20 million. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters could determine to sell fewer shares to Intrexon than it indicated an interest in purchasing or sell no shares to Intrexon, and Intrexon could determine to purchase fewer shares than it indicated an interest in purchasing or purchase no shares in this offering.

Policies and Procedures for Review of Related Person Transactions

Our Board of Directors has adopted a written policy with respect to related person transactions. This policy governs the review, approval, and ratification of covered related person transactions. The Audit Committee of the Board of Directors manages this policy.

For purposes of this policy, a "related person transaction" is a transaction, arrangement, or relationship (or any series of similar transactions, arrangements, or relationships) in which we (or any of our subsidiaries) were, are, or will be a participant, and in which any related person had, has, or will have a direct or indirect interest. For purposes of determining whether a transaction is a related person transaction, the Audit Committee relies upon Item 404 of Regulation S-K promulgated under the Exchange Act.

A "related person" is defined as:

- any person who is, or at any time since the beginning of our last fiscal year was, one of our directors or executive officers or a nominee to become one of our directors;
- any person who is known to be the beneficial owner of more than 5% of any class of our voting securities;
- any immediate family member of any of the foregoing persons, which means any child, stepchild, parent, stepparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law of the director, executive officer, nominee, or more-than-five-percent beneficial owner and any person (other than a tenant or employee) sharing the household of such director, executive officer, nominee, or more-than-five-percent beneficial owner; and
- any firm, corporation, or other entity in which any of the foregoing persons is employed or is a general partner or principal or in a similar position or in which such person has a 10% or greater beneficial ownership interest.

The policy generally provides that we may enter into a related person transaction only if:

- the Audit Committee pre-approves such transaction in accordance with the guidelines set forth in the policy;
- the transaction is on terms comparable to those that could be obtained in arm's-length dealings with an unrelated third party, and the Audit Committee (or the chairperson of the Audit Committee) approves or ratifies such transaction in accordance with the guidelines set forth in the policy;
- the transaction is approved by the disinterested members of the Board of Directors; or
- the transaction involves compensation approved by the Compensation Committee of the Board of Directors.

If a related person transaction is not pre-approved by the Audit Committee, and our management determines to recommend such related person transaction to the Audit Committee, such transaction must be reviewed by the Audit Committee. After review, the Audit Committee will approve or disapprove such transaction. In addition, the Audit Committee reviews the policy at least annually and recommends amendments to the policy to the Board of Directors from time to time.

The policy provides that all related person transactions will be disclosed to the Audit Committee and all material related person transactions will be disclosed to the Board of Directors. Additionally, all related person transactions requiring public disclosure will be properly disclosed in our public filings.

The Audit Committee will review all relevant information available to it about the related person transaction. The policy provides that the Audit Committee may approve or ratify the related person transaction only if the Audit Committee determines that, under all of the circumstances, the transaction is in, or is not inconsistent with, our best interests. The policy provides that the Audit Committee may, in its sole discretion, impose such conditions as it deems appropriate on us or the related person in connection with approval of the related person transaction.

PRINCIPAL STOCKHOLDERS

The following table sets forth certain information known to us with respect to the beneficial ownership of our common stock as of October 31, 2017, by (i) each person who, to our knowledge, beneficially owns 5% or more of the outstanding shares of our common stock, (ii) each of our directors and nominees for director, (iii) each named executive officer (as listed in the Summary Compensation Table, which appears later in this prospectus), and (iv) all current directors and executive officers as a group. Except for shares of our common stock held in brokerage accounts that may, from time to time, together with other securities held in those accounts, serve as collateral for margin loans made from such accounts, none of the shares reported as beneficially owned by our directors or executive officers are currently pledged as security for any outstanding loan or indebtedness.

We have determined beneficial ownership in accordance with the rules of the SEC. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities. Unless otherwise indicated, the persons or entities identified in this table have sole voting and investment power with respect to all shares shown as beneficially owned by them, subject to applicable community property laws.

	Shares beneficially owned prior to offering		Shares beneficially owned after offering	
Name and address of beneficial owner(1)	Number of Shares Beneficially Owned(2)	Percent of Class	Number of Shares Beneficially Owned	Percent of Class
5% Stockholders:				
Randal J. Kirk(3) The Governor Tyler 1881 Grove Avenue Radford, Virginia 24141	5,999,831		67.5 %	
Abbott Laboratories(4) 200 Abbott Park Road Abbott Park, IL 60064	737,669		8.3 %	
Named Executive Officers and Directors:				
Ronald L. Stotish	91,153		* %	
David A. Frank	36,077		* %	
Alejandro Rojas	8,313		* %	
Richard J. Clothier	38,750		* %	
Jack A. Bobo	—		* %	
Christine St.Clare	7,857		* %	
Richard L. Huber	33,968		* %	
Rick Sterling	—		* %	
James C. Turk	8,657		* %	
Executive officers and directors as a group (10 persons)	228,193		2.8 %	

* Indicates beneficial ownership of less than one percent of the total outstanding shares of our common stock.

(1) Unless otherwise indicated, the address for each beneficial owner is c/o AquaBounty Technologies, Inc., 2 Mill & Main Place, Suite 395, Maynard, MA 01754.

(2) Amounts include options to purchase shares of our common stock that are exercisable within 60 days of October 31, 2017.

(3) Based solely on a Schedule 13D/A filed on July 26, 2017 by Randal J. Kirk, Intrexon Corporation, and Third Security, LLC, reporting beneficial ownership as of July 24, 2017. Randal J. Kirk, Intrexon's Chairman, Chief Executive Officer, and controlling shareholder, and Third Security, LLC's Chief Executive Officer and Senior Managing Director, has reported beneficial ownership of approximately 67.5% of our outstanding shares of common stock, which includes shares owned by Intrexon and Third Security, LLC. Intrexon currently holds approximately 5,162,277 shares, or 58.0%, of our outstanding shares of common

stock, and Third Security, LLC holds approximately 634,994 shares, or 7.1%, of our outstanding shares of common stock.

(4) Based solely on a Schedule 13G filed on December 30, 2016, by Abbott Laboratories and CFR International SpA, reporting beneficial ownership as of December 30, 2016. Represents (i) 727,271 shares held by CFR International SpA and (ii) 10,398 shares held by Western Pharmaceuticals SA, each a wholly owned subsidiary of Abbott Laboratories. CFR International SpA is located at Avenida Pedro de Valdivia No 295, Comuna de Providencia, Ciudad de Santiago Region Metropolitana, 7500524 Chile. Western Pharmaceuticals SA was subject to liquidation proceedings at the time of filing, with voting and dispositive control over its shares exercised by a liquidator appointed pursuant to Ecuadoran law.

DESCRIPTION OF CAPITAL STOCK

The following description summarizes certain important terms of our common stock. Because this description is only a summary, it does not contain all the information that may be important to you. For a complete description of the matters set forth in this section, you should refer to the Third Amended and Restated Certificate of Incorporation and the Amended and Restated Bylaws, forms of which are included as exhibits to the registration statement of which this prospectus forms a part.

General

Our authorized capital stock consists of 200,000,000 shares of common stock, par value $0.001 per share, of which 8,895,094 shares are outstanding and held of record by 345 stockholders as of October 31, 2017, and 40,000,000 shares of preferred stock, par value $0.01 par value per share, of which zero shares are outstanding.

In 2014, we sought and obtained the approval of our shareholders of the amendment and restatement of our then existing Second Amended and Restated Certificate of Incorporation to effect a 1-for-10 reverse stock split and certain changes to the corporate governance procedures and voting thresholds set forth therein. In 2015, we sought and obtained the approval of our shareholders to adjust the reverse stock split ratio, either keeping it at 1-for-10, or changing it to 1-for-20, 1-for-30, 1-for-40, or 1-for-50, at the discretion of our Board of Directors. In May 2015, we adopted our Third Amended and Restated Certificate of Incorporation.

In connection with Intrexon Corporation's ("Intrexon's") distribution of 1,776,557 shares of our common stock that Intrexon held prior to the closing via a share dividend to its shareholders, the registration of our common stock on Form 10-12B, dated December 29, 2016, and our application to list our common stock on the Nasdaq Capital Market, we convened a special meeting of our shareholders and submitted proposals for the reapproval by our shareholders to effect a reverse stock split (the "Reverse Stock Split"). The stockholders approved Reverse Stock Split ratios of 1-for-10, 1-for-20, 1-for-30, or 1-for-40, respectively, and provided our Board of Directors the flexibility to implement the most appropriate Reverse Stock Split to meet the initial listing standards of the Nasdaq Capital Market. Our Board of Directors approved a 1-for-30 reverse stock split in December 2016 that took effect on January 5, 2017. The Reverse Stock Split did not change our authorized share capital, affected all shareholders uniformly and did not affect any shareholder's percentage ownership interest in AquaBounty, except to the extent that the Reverse Stock Split resulted in any shareholders owning a fractional share.

Our Board of Directors is authorized to issue additional shares of our capital stock without shareholder approval, except as required by the Nasdaq listing standards.

Common Stock

Subject to preferences that may be applicable to any outstanding shares of our preferred stock, holders of shares of our common stock are entitled to receive ratably such dividends, if any, as our Board of Directors may declare on the common stock out of funds legally available for that purpose. Upon our liquidation, dissolution, or winding up, holders of shares of our common stock would be entitled to share ratably in all assets remaining after the payment of all debts and other liabilities and the liquidation preferences of any outstanding shares of our preferred stock.

Voting Rights

Holders of common stock have no preemptive, conversion or subscription rights. There are no redemption or sinking fund provisions applicable to the common stock.

Holders of shares of our common stock are entitled to one vote for each share held of record on all matters submitted to a vote of shareholders. A majority of the votes cast at a meeting of the shareholders by the holders

of shares entitled to vote is required for any action by the shareholders except (a) as otherwise provided by law or the Third Amended and Restated Certificate of Incorporation and (b) that directors are to be elected by a plurality of the votes cast at elections. Holders of shares of our common stock do not have cumulative voting rights in the election of directors.

Future Issuance of Preferred Stock

There are no shares of preferred stock issued or outstanding. Our Board of Directors may, without further action by our shareholders, from time to time, direct the issuance of shares of preferred stock in one or more series and may, at the time of issuance, determine the rights, preferences, and limitations of each series. Satisfaction of any dividend preferences of outstanding shares of preferred stock would reduce the amount of funds available for the payment of dividends on shares of our common stock.

Holders of shares of preferred stock may be entitled to receive a preference payment in the event of our liquidation, dissolution, or winding up before any payment is made to the holders of shares of our common stock. Under certain circumstances, the issuance of shares of preferred stock may render more difficult or tend to discourage a merger, tender offer, or proxy contest; the assumption of control by a holder of a large block of our securities; or the removal of incumbent management. Our Board of Directors may, without shareholder approval, issue shares of preferred stock with voting and conversion rights that could adversely affect the holders of shares of our common stock.

Certain Provisions of the Third Amended and Restated Certificate of Incorporation and the Amended and Restated Bylaws

Certain provisions of the Delaware General Corporation Law and of our Third Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions, which are summarized below, are expected to discourage certain types of coercive takeover practices and inadequate takeover bids and, as a consequence, they might also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions are also designed in part to encourage anyone seeking to acquire control of us to first negotiate with our Board of Directors. These provisions might also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders might otherwise deem to be in their best interests. However, we believe that the advantages gained by protecting our ability to negotiate with any unsolicited and potentially unfriendly acquirer outweigh the disadvantages of discouraging such proposals, including those priced above the then-current market value of our common stock, because, among other reasons, the negotiation of such proposals could improve their terms.

Advance Notice Procedures

The Amended and Restated Bylaws establish advance notice procedures for shareholders to make nominations of candidates for election as directors or bring other business before an annual meeting of our shareholders. These procedures provide that only persons who are nominated by or at the direction of our Board of Directors or by a shareholder who has given timely notice in proper written form that is received at our principal executive offices prior to the applicable annual meeting will be eligible for election as directors. These procedures also require that, in order to raise matters at an annual meeting, those matters be raised before the meeting pursuant to the notice of meeting we deliver or by, or at the direction of, our Board of Directors or by a shareholder who is entitled to vote at the meeting and who has given timely notice in proper written form to our Corporate Secretary of the shareholder's intention to raise those matters at the annual meeting. If the officer presiding at a meeting determines that a person was not nominated, or other business was not brought before the meeting, in accordance with the notice procedure, that person will not be eligible for election as a director, or that business will not be conducted at the meeting.

Authorized but Unissued Shares

The authorized but unissued shares of our common stock are available for future issuance without shareholder approval. We may use these additional shares for a variety of corporate purposes, including future public offerings to raise additional capital, corporate acquisitions, and as incentive compensation. The existence of authorized but unissued shares of our common stock could render more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger, or otherwise.

Amendment to By-Laws and Third Amended and Restated Certificate of Incorporation.

As required by the DGCL, any amendment of our certificate of incorporation must first be approved by a majority of our Board of Directors and, if required by law or our Third Amended and Restated Certificate of Incorporation, thereafter be approved by a majority of the outstanding shares entitled to vote on the amendment, and a majority of the outstanding shares of each class entitled to vote thereon as a class, except that the amendment of the provisions relating to directors, limitation of liability and choice of forum must be approved by not less than 66 2/3% of the outstanding shares entitled to vote on the amendment. Our Amended and Restated Bylaws may be amended by the affirmative vote of a majority vote of the directors then in office, subject to any limitations set forth in the Amended and Restated Bylaws, and may also be amended by the affirmative vote of at least 66 2/3% of the outstanding shares entitled to vote on the amendment.

Board Composition and Filling Vacancies.

In accordance with our Third Amended and Restated Certificate of Incorporation, directors may be removed without cause by the affirmative vote of the holders of 66 2/3% or more of the shares then entitled to vote at an election of directors, or with cause by the affirmative vote of a majority of the shares then entitled to vote at an election of directors. Furthermore, any vacancy on our Board of Directors, however occurring, including a vacancy resulting from an increase in the size of our Board of Directors, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum.

Forum

Our Third Amended and Restated Certificate of Incorporation provides that the Court of Chancery of the State of Delaware shall, to the fullest extent permitted by law, be the sole and exclusive forum for (1) any derivative action or proceeding brought on our behalf, (2) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee to us or to our stockholders, (3) any action asserting a claim arising pursuant to any provision of the DGCL, or (4) any action asserting a claim governed by the internal affairs doctrine.

No Written Consent of Stockholders.

Our Third Amended and Restated Certificate of Incorporation provides that all stockholder actions are required to be taken by a vote of the stockholders at an annual or special meeting, and that stockholders may not take any action by written consent in lieu of a meeting.

Meetings of Stockholders

Our Third Amended and Restated Certificate of Incorporation provides that only the chairman of our Board of Directors, our chief executive officer or a majority of the authorized number of directors may call special meetings of stockholders and only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders. Our Amended and Restated Bylaws limit the business that may be conducted at an annual meeting of stockholders to those matters properly brought before the meeting.

Transfer Agent

The transfer agent for our common stock is Computershare Trust Company, N.A.

Listing

Our common stock is listed on the Nasdaq Capital Market under the symbol “AQB.”

SHARES ELIGIBLE FOR FUTURE SALE

Future sales of substantial amounts of common stock in the public market, or the perception that such sales may occur, could adversely affect the market price of our common stock. We cannot assure you that there will be an active public market for our common stock.

Following the completion of this offering, based on the number of shares of our capital stock outstanding as of October 31, 2017, we will have a total of shares of our common stock outstanding, or shares of common stock if the underwriter exercises its option to purchase additional shares of common stock in this offering in full. Of these outstanding shares, all of the shares of common stock sold in this offering by us, as well as the shares of common stock registered on our Registration Statement on Form 10-12B, dated December 29, 2016, will be freely tradable, except that any shares held by our affiliates, as that term is defined in Rule 144 under the Securities Act, would only be able to be sold in compliance with the Rule 144 limitations described below.

Lock-Up Agreements

In connection with this offering, our executive officers and directors have signed lock-up agreements under which they have agreed not to dispose of or hedge any shares or any securities convertible into or exchangeable for shares of our capital stock without the prior written consent of H.C. Wainwright & Co., LLC for a period of 90 days after the date of this prospectus. These agreements are described in the section of this prospectus titled "Underwriting."

Rule 144

In general, under Rule 144 as currently in effect, a person who is not deemed to have been one of our affiliates for purposes of the Securities Act at any time during the 90 days preceding a sale and who has beneficially owned the shares proposed to be sold for at least six months, including the holding period of any prior owner other than our affiliates, is entitled to sell those shares without complying with the manner of sale, volume limitation or notice provisions of Rule 144, subject to compliance with the public information requirements of Rule 144. If such a person has beneficially owned the shares proposed to be sold for at least one year, including the holding period of any prior owner other than our affiliates, then that person would be entitled to sell those shares without complying with any of the requirements of Rule 144.

In general, under Rule 144, as currently in effect, our affiliates or persons selling shares on behalf of our affiliates are entitled to sell upon expiration of the lock-up agreements described above, within any three-month period, a number of shares that does not exceed the greater of:

- 1% of the number of shares of our common stock then outstanding, which will equal approximately shares immediately after this offering; or
- the average weekly trading volume of our common stock during the four calendar weeks preceding the filing of a notice on Form 144 with respect to that sale.

Sales under Rule 144 by our affiliates or persons selling shares on behalf of our affiliates are also subject to certain manner of sale provisions and notice requirements and to the availability of current public information about us.

Rule 701

Rule 701 generally allows most of our employees, directors, officers, consultants or advisors who purchased shares of our common stock pursuant to a written compensatory plan or contract and who are not deemed to have been one of our affiliates during the immediately preceding 90 days to sell these shares in reliance upon Rule

144, but without being required to comply with the public information, holding period, volume limitation, or notice provisions of Rule 144. Rule 701 also permits our affiliates to sell their Rule 701 shares under Rule 144 without complying with the holding period requirements of Rule 144.

Registration Statement on Form S-8

We filed a registration statement on Form S-8 under the Securities Act to register shares that may be issued pursuant to our 2006 Equity Incentive Plan and 2016 Equity Incentive Plan. The registration statement on Form S-8 became effective immediately upon filing, and shares covered by the registration statement then became eligible for sale in the public market, subject to the Rule 144 limitations applicable to affiliates, vesting restrictions and any applicable lock-up agreements and market standoff agreements. See “Executive Compensation—Employee Benefits Plans” for a description of our equity incentive plans.

CERTAIN MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS OF OUR COMMON STOCK

The following is a summary of material U.S. federal income tax considerations to non-U.S. holders (as defined below) relating to the acquisition, ownership and disposition of common stock pursuant to this offering. This summary deals only with common stock held as a capital asset (within the meaning of Section 1221 of the Internal Revenue Code of 1986, as amended, or the Code) by a holder and does not discuss the U.S. federal income tax considerations applicable to a holder that is subject to special treatment under U.S. federal income tax laws, including, but not limited to: a dealer in securities or currencies; a financial institution; a regulated investment company; a real estate investment trust; a tax-exempt organization; governmental organization; an insurance company; a person holding common stock as part of a hedging, integrated, conversion or straddle transaction or a person deemed to sell common stock under the constructive sale provisions of the Code; a trader in securities that has elected the mark-to-market method of accounting; an entity or arrangement that is treated as a partnership for U.S. federal income tax purposes or owners of such entity or arrangement; a person that received such common stock in connection with the performance of services; pension fund or retirement account; a "controlled foreign corporation;" a "passive foreign investment company;" a corporation that accumulates earnings to avoid U.S. federal income tax; or a former citizen or long-term resident of the United States.

This summary is based upon provisions of the Code, applicable U.S. Treasury regulations promulgated thereunder, published rulings and judicial decisions, all as in effect as of the date hereof. Those authorities may be changed, perhaps retroactively, or may be subject to differing interpretations, which could result in U.S. federal income tax consequences different from those discussed below. This summary does not address all aspects of U.S. federal income tax, does not deal with all tax considerations that may be relevant to stockholders in light of their personal circumstances and does not address the Medicare tax imposed on certain investment income or any state, local, foreign, gift, estate or alternative minimum tax considerations. We have not sought any ruling from the Internal Revenue Service ("IRS") with respect to the statements made and the conclusions reached in the following summary, and there can be no assurance that the IRS or a court will agree with such statements and conclusions.

For purposes of this discussion, a "U.S. holder" is a beneficial owner of common stock that is: an individual citizen or resident of the United States; a corporation (or any other entity treated as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the United States, any state thereof or the District of Columbia; an estate the income of which is subject to U.S. federal income taxation regardless of its source; or a trust if it (1) is subject to the primary supervision of a court within the United States and one or more U.S. persons have the authority to control all substantial decisions of the trust or (2) has a valid election in effect under applicable U.S. Treasury regulations to be treated as a U.S. person.

For purposes of this discussion a "non-U.S. holder" is a beneficial owner of common stock that is neither a U.S. holder nor a partnership (or any other entity or arrangement that is treated as a partnership) for U.S. federal income tax purposes. If a partnership (or an entity or arrangement that is treated as a partnership for U.S. federal income tax purposes) holds common stock, the tax treatment of a partner will generally depend upon the status of the partner and the activities of the partnership. A partner of a partnership holding common stock is urged to consult its own tax advisors.

PROSPECTIVE INVESTORS ARE URGED TO CONSULT THEIR OWN TAX ADVISORS CONCERNING THEIR PARTICULAR U.S. FEDERAL INCOME TAX CONSEQUENCES IN LIGHT OF THEIR SPECIFIC SITUATIONS, AS WELL AS THE TAX CONSEQUENCES ARISING UNDER ANY STATE, LOCAL OR NON-U.S. TAX LAWS AND ANY OTHER U.S. FEDERAL TAX LAWS (INCLUDING THE U.S. FEDERAL ESTATE AND GIFT TAX LAWS).

Distributions on our Common Stock

Distributions with respect to common stock, if any, generally will constitute dividends for U.S. federal income tax purposes to the extent paid out of current or accumulated earnings and profits, as determined for U.S. federal income tax purposes. Any portion of a distribution in excess of current or accumulated earnings and profits will be treated as a return of capital and will first be applied to reduce the holder's tax basis in its common stock, but not below zero. Any remaining amount will then be treated as gain from the sale or exchange of the common stock and will be treated as described under the section titled "—Disposition of our Common Stock" below.

Distributions treated as dividends that are paid to a non-U.S. holder, if any, with respect to shares of our common stock will be subject to U.S. federal withholding tax at a rate of 30% (or lower tax rate if the non-U.S. Holder qualifies under an applicable income tax treaty rate) of the gross amount of the dividends unless the dividends are effectively connected with the non-U.S. holder's conduct of a trade or business in the United States. If a non-U.S. holder is engaged in a trade or business in the United States and dividends with respect to the common stock are effectively connected with the conduct of that trade or business, then the non-U.S. holder will generally be exempt from the 30% U.S. federal withholding tax, provided certain certification requirements are satisfied, but the non-U.S. holder will be subject to U.S. federal income tax on those dividends on a net income basis at regular graduated U.S. federal income tax rates in the same manner as if such holder were a resident of the United States (except to the extent provided in an applicable income tax treaty, which may require that such dividends be attributable to a U.S. permanent establishment or fixed base in order to be subject to tax as described herein). Any such effectively connected income received by a foreign corporation may, under certain circumstances, be subject to an additional branch profits tax equal to 30% (or lower applicable income tax treaty rate) of its effectively connected earnings and profits for the taxable year, as adjusted under the Code. To claim the exemption from withholding with respect to any such effectively connected income, the non-U.S. holder must generally furnish to us or our paying agent a properly executed Internal Revenue Service ("IRS") Form W-8ECI (or applicable successor form). A non-U.S. holder of shares of common stock who wishes to claim the benefit of an exemption or reduced rate of withholding tax under an applicable treaty must furnish to us or our paying agent a valid IRS Form W-8BEN or Form W-8BEN-E (or applicable successor form) certifying such holder's qualification for the exemption or reduced tax rate. If a non-U.S. holder is eligible for a reduced tax rate of U.S. withholding tax pursuant to an income tax treaty, it may obtain a refund of any excess amounts withheld by filing an appropriate and timely claim for refund with the IRS. Non-U.S. holders are urged to consult their tax advisors regarding their entitlement to benefits under a relevant income tax treaty.

Disposition of our Common Stock

Non-U.S. holders may recognize gain upon the sale, exchange, or other taxable disposition of our common stock. Such gain generally will not be subject to U.S. federal income tax unless: (i) that gain is effectively connected with the non-U.S. holder's conduct of a trade or business in the United States (and, if required by an applicable income tax treaty, is attributable to a U.S. permanent establishment or fixed base maintained by the non-U.S. holder in the U.S.); (ii) the non-U.S. holder is a nonresident alien individual who is present in the United States for 183 days or more in the taxable year of that disposition, and certain other conditions are met; or (iii) we are or have been a "U.S. real property holding corporation" ("USRPHC") for U.S. federal income tax purposes at any time during the shorter of the five-year period preceding the date of disposition or the holder's holding period for our common stock, unless our common stock is regularly traded on an established securities market and the non-U.S. holder held no more than 5% of our outstanding common stock, directly or indirectly,

during the shorter of the five year period ending on the date of the disposition or the period that the non-U.S. holder held our common stock.

If a non-U.S. holder is an individual described in clause (i) of the preceding paragraph, the non-U.S. holder will generally be subject to tax on a net income basis at the regular graduated U.S. federal individual income tax rates in the same manner as if such holder were a resident of the United States, unless an applicable income tax treaty provides otherwise. If a non-U.S. holder is a foreign corporation that, it will be subject to tax on a net income basis at the regular graduated U.S. federal corporate income tax rates in the same manner as if it were a resident of the United States and, in addition, the non-U.S. holder, that is a may be subject to the branch profits tax at a rate equal to 30% (or lower tax rate under an applicable income tax treaty rate) of its effectively connected earnings and profits.

If the non-U.S. holder is an individual described in clause (ii) of the preceding paragraphabove, the non-U.S. holder will generally be subject to a flat U.S. federal income tax at a rate of 30% tax on the gain, which may be offset by U.S. source capital losses even though the non-U.S. holder is not considered a resident of the United States, provided that the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses.

For clause (iii) above, generally, a corporation is a USRPHC if the fair market value of its United States real property interests equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests and its other assets used or held for use in a trade or business. We believe that we currently are not a USRPHC for U.S. federal income tax purposes, and we do not expect to become a USRPHC for the foreseeable future. However, in the event that we become a USRPHC, as long as our common stock is and continues to be "regularly traded on an established securities market" (within the meaning of the U.S. Treasury Regulations) market, only a non-U.S. holder that actually or constructively owns, or owned at any time during the shorter of the five-year period ending on the date of the disposition or the non-U.S. holder's holding period for the common stock, more than 5% of our common stock will be taxable on gain realized on the disposition of our common stock as a result of our status as a USRPHC. If we were to become a USRPHC and our common stock were not considered to be regularly traded on an established securities market, such holder (regardless of the percentage of stock owned) would be subject to U.S. federal income tax on a taxable disposition of our common stock (as described in the preceding paragraph), and a 15% withholding tax would apply to the gross proceeds from such disposition.

Non-U.S. holders should consult their tax advisors with respect to the application of the foregoing rules to their ownership and disposition of our common stock.

Information Reporting and Backup Withholding Tax

We must generally report to our non-U.S. holders and the IRS the amount of dividends paid during each calendar year and the amount of any tax withheld. All distributions to holders of common stock are subject to any applicable withholding. Information reporting requirements may apply even if no withholding was required because the distributions were effectively connected with the non-U.S. holder's conduct of a United States trade or business or withholding was reduced or eliminated by an applicable income tax treaty. This information also may be made available under a specific treaty or agreement with the tax authorities in the country in which the non-U.S. holder resides or is established. Under U.S. federal income tax law, interest, dividends and other reportable payments may, under certain circumstances, be subject to "backup withholding" at the then applicable rate. Backup withholding, however, generally will not apply to distributions to a non-U.S. holder of our common stock, provided the non-U.S. holder furnishes to us or our paying agent the required certification as to its non-U.S. status, such as by providing a valid IRS Form W-8BEN (or W-8BEN-E) or IRS Form W-8ECI, or certain other requirements are met. Notwithstanding the foregoing, backup withholding may apply if either we or our paying agent has actual knowledge, or reason to know, that the holder is a U.S. person that is not an exempt recipient. Backup withholding is not an additional tax. Rather, the U.S. federal income tax liability (if any) of

persons subject to backup withholding will be reduced by the amount of tax withheld. Backup withholding but can be credited against a non-U.S. holder's federal income tax, and may be refunded to the extent it results in an overpayment of tax and the appropriate information is timely supplied to the IRS.

Foreign Account Tax Compliance Act

The Foreign Account Tax Compliance Act, or FATCA, imposes withholding taxes on certain types of payments made to "foreign financial institutions" (as specially defined under these rules) and certain other non-U.S. entities if certification, information reporting and other specified requirements are not met. FATCA imposes a 30% withholding tax on "withholdable payments" if they are paid to a foreign financial institution or to a foreign non-financial entity, unless (i) the foreign financial institution undertakes certain diligence and reporting obligations and other specified requirements are satisfied or (ii) the foreign non-financial entity either certifies it does not have any substantial U.S. owners or furnishes identifying information regarding each substantial U.S. owner and other specified requirements are satisfied. "Withholdable payment" generally means (i) any payment of interest, dividends, rents and certain other types of income if such payment is from sources within the United States, and (ii) any gross proceeds from the sale or other disposition of any property of a type that can produce interest or dividends from sources within the United States (including, for example, stock and debt of U.S. corporations). If the payee is a foreign financial institution, it must enter into an agreement with the U.S. Treasury requiring, among other things, that it undertake to identify accounts held by certain U.S. persons or U.S.-owned foreign entities, annually report certain information about such accounts and withhold 30% on payments to account holders whose actions prevent it from complying with these reporting and other requirements. If an investor does not provide us with the information necessary to comply with FATCA, it is possible that distributions to such investor that are attributable to withholdable payments, such as dividends, will be subject to the 30% withholding tax. Under final U.S. Treasury Regulations and current IRS guidance, withholding on dividends on our common stock will only apply to payments made on or after July 1, 2014, and withholding on payments of gross proceeds from the sale or disposition of our common stock will only apply to payments made on or after . An intergovernmental agreement between the United States and an applicable foreign country may modify the requirements described in this paragraph. Prospective investors should consult their own tax advisors regarding this legislation.

UNDERWRITING

Pursuant to the underwriting agreement with H.C. Wainwright & Co., LLC as the sole book-running manager of this offering, we have agreed to issued and sell, and the underwriter has agreed to purchase, shares of common stock, less the underwriting discounts and commissions, on the closing date, subject to the terms and conditions contained in the underwriting agreement. The underwriting agreement provides that the obligations of the underwriter are subject to certain customary conditions precedent, representations and warranties contained therein.

Pursuant to the underwriting agreement, the underwriter has agreed to purchase all of the shares sold under the underwriting agreement if any of these shares are purchased, other than those shares covered by the overallotment option described below. The underwriter has advised us that it does not intend to confirm sales to any account over which it exercises discretionary authority.

The underwriter proposes to offer the shares of common stock to the public at the public offering price set forth on the cover page of this prospectus. If all of the shares are not sold at the public offering price, the underwriter may change the offering price and other selling terms from time to time and we will file a supplement to this prospectus to reflect such modified terms.

The underwriter is offering the shares, subject to prior sale, when, as and if issued to and accepted by the underwriter, subject to approval of legal matters and other conditions specified in the underwriting agreement. The underwriter reserves the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Intrexon Corporation, our majority stockholder, has indicated an interest in purchasing a minimum of $7.5 million of shares of our common stock in this offering at the public offering price, if the aggregate proceeds to us from this offering are $20 million. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters could determine to sell fewer shares to Intrexon than it indicated an interest in purchasing or sell no shares to Intrexon, and Intrexon could determine to purchase fewer shares than it indicated an interest in purchasing or purchase no shares in this offering.

We have granted to the underwriter an option to purchase up to additional shares of common stock (up to 15% of the shares of common stock in this offering) at the public offering price, less the underwriting discount. The option is exercisable for 30 days. The underwriter may exercise this option solely for the purpose of covering overallotments, if any, made in connection with the sale of common stock offered hereby.

The following table shows the public offering price, underwriting discounts and commissions and proceeds, before expenses, to us. These amounts are shown assuming both no exercise and full exercise of the underwriter's option to purchase additional shares.

		Total	
	Per Share	Without Option Exercise	With Option Exercise
Public offering price			
Underwriting discounts and commissions			
Proceeds, before expenses, to us			

We have agreed to reimburse the expenses of the underwriter in the non-accountable sum of $25,000 and the other actual expenses of the underwriter, including its legal fees, up to $100,000 in connection with this offering. We have also agreed to pay the underwriter a management fee equal to 1% of the aggregate gross proceeds in this offering, provided that no management fee shall be payable in connection with purchases in this offering by Intrexon.

Upon completion of this offering, in the event that we decide (i) to enter into an acquisition, merger or recapitalization transaction and to retain a financial advisor in such transaction, (ii) to finance or refinance any indebtedness using a manager or agent, or (iii) to raise funds through a public offering or private placement of equity or debt securities using an underwriter or placement agent, we have granted the underwriter a right of first refusal to act as exclusive financial advisor, sole book runner or agent or sole book-running manager, underwriter or placement agent in connection with any such transactions, subject to certain specified exceptions. This right of first refusal extends for 12 months from the closing date of this offering. The terms of any such engagement of the underwriter will be determined by separate agreement.

In the event that any investors that were contacted or introduced to us in connection with offering by the underwriter provide any capital to us in a public or private offering or capital-raising transaction within 12 months following the termination of our engagement of the underwriter, we shall pay the underwriter the cash compensation provided above on the gross proceeds from such investors, subject to exception for certain identified investors.

We have agreed to indemnify the underwriter against certain liabilities, including civil liabilities under the Securities Act of 1933, as amended (the "Securities Act"), or to contribute to payments that the underwriter may be required to make in respect of those liabilities.

We and each of our directors and executive officers have entered into lock-up agreements that prevent them from selling any shares of our common stock or any securities convertible into or exercisable or exchangeable into share of common stock, subject to certain exceptions, for a period of 90 days after the date of this prospectus. The underwriter, in its sole discretion, may release the common stock and other securities subject to the lock-up agreements described above in whole or in part at any time. When determining whether or not to release the common stock and other securities from lock-up agreements, the underwriter will consider, among other factors, the holder's reasons for requesting the release and the number of shares of common stock or other securities for which the release is being requested.

In connection with this offering, the underwriter may engage in stabilizing transactions, overallotment transactions, syndicate covering transactions and penalty bids in connection with our common stock.

- Stabilizing transactions permit bids to purchase shares of common stock so long as the stabilizing bids do not exceed a specified maximum.
- Overallotment transactions involve sales by the underwriter of shares of common stock in excess of the number of shares the underwriter is obligated to purchase. This creates a syndicate short position which may be either a covered short position or a naked short position. In a covered short position, the number of shares over-allotted by the underwriter is not greater than the number of shares that it may purchase in the overallotment option. In a naked short position, the number of shares involved is greater than the number of shares in the overallotment option. The underwriter may close out any short position by exercising its overallotment option and/or purchasing shares in the open market.
- Syndicate covering transactions involve purchases of common stock in the open market after the distribution has been completed in order to cover syndicate short positions. Such a naked short position would be closed out by buying securities in the open market. A naked short position is more likely to be created if the underwriter is concerned that there could be downward pressure on the price of the securities in the open market after pricing that could adversely affect investors who purchase in the offering.
- Penalty bids permit the underwriter to reclaim a selling concession from a syndicate member when the securities originally sold by the syndicate member are purchased in a stabilizing or syndicate covering transaction to cover syndicate short positions.

These stabilizing transactions, syndicate covering transactions and penalty bids may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our

common stock. As a result, the price of our common stock in the open market may be higher than it would otherwise be in the absence of these transactions. Neither we nor the underwriter make any representation or prediction as to the effect that the transactions described above may have on the price of our common stock. These transactions may be effected on The Nasdaq Capital Market, in the over-the-counter market or otherwise and, if commenced, may be discontinued at any time.

In connection with this offering, the underwriter also may engage in passive market making transactions in our common stock in accordance with Regulation M during a period before the commencement of offers or sales of shares of our common stock in this offering and extending through the completion of the distribution. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for that security. However, if all independent bids are lowered below the passive market maker's bid that bid must then be lowered when specific purchase limits are exceeded. Passive market making may stabilize the market price of the securities at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

A prospectus in electronic format may be made available on the websites maintained by the underwriter, if any, participating in this offering and the underwriter may distribute prospectuses electronically. Other than the prospectus in electronic format, the information on these websites is not part of this prospectus or the registration statement of which this prospectus form a part, has not been approved or endorsed by us or the underwriter, and should not be relied upon by investors.

LEGAL MATTERS

Goodwin Procter LLP, Boston, Massachusetts, which has acted as our counsel in connection with this offering, will pass upon the validity of the shares of common stock being offered by this prospectus. The underwriter has been represented by Ellenoff Grossman & Schole LLP, New York, New York.

EXPERTS

The consolidated financial statements as of December 31, 2015 and 2016, and for each of the three years in the period ended December 31, 2016, included in this prospectus have been audited by Wolf & Company, P.C., an independent registered public accounting firm, as stated in their report appearing herein (which report expresses an unqualified opinion on the consolidated financial statements). Such consolidated financial statements have been so included in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

ADDITIONAL INFORMATION

We have filed with the Securities and Exchange Commission ("SEC") a registration statement on Form S-1 under the Securities Act with respect to the shares of common stock offered by this prospectus. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement, some of which is contained in exhibits to the registration statement as permitted by the rules and regulations of the SEC. For further information with respect to us and our common stock, we refer you to the registration statement, including the exhibits filed as a part of the registration statement. Statements contained in this prospectus concerning the contents of any contract or any other document are not necessarily complete. If a contract or document has been filed as an exhibit to the registration statement, please see the copy of the contract or document that has been filed. Each statement in this prospectus relating to a contract or document filed as an exhibit is qualified by the filed exhibit. You may obtain copies of this information by mail from the Public Reference Section of the SEC, 100 F Street, N.E., Room 1580, Washington, D.C. 20549, at prescribed rates. You may obtain information on the operation of the public reference rooms by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet website that contains reports, proxy statements and other information about issuers, like us, that file electronically with the SEC. The address of that website is www.sec.gov.

We are subject to the information and reporting requirements of the Securities Exchange Act of 1934 and, in accordance with this law, we are required to file periodic reports, proxy statements and other information with the SEC. These periodic reports, proxy statements and other information are available for inspection and copying at the SEC's public reference facilities and the website of the SEC referred to above. All of these documents are available free of charge on our website, www.aquabounty.com, and will be provided free of charge to any shareholders requesting a copy by writing to: Corporate Secretary, AquaBounty Technologies, Inc., 2 Mill & Main Place, Suite 395, Maynard Massachusetts 01754, 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 prospectus.

AQUABOUNTY TECHNOLOGIES, INC.
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of AquaBounty Technologies, Inc.:

We have audited the accompanying consolidated balance sheets of AquaBounty Technologies, Inc. as of December 31, 2016 and 2015, and the related consolidated statements of operations and comprehensive loss, changes in stockholders' equity (deficit), and cash flows for each of the years in the three-year period ended December 31, 2016. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, 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. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of AquaBounty Technologies, Inc. as of December 31, 2016 and 2015, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2016, in conformity with accounting principles generally accepted in the United States of America.

Wolf & Company, P.C.
Boston, Massachusetts
March 16, 2017

Consolidated Financial Statements
for the years ended December 31, 2016, 2015, and 2014

AquaBounty Technologies, Inc.
Consolidated Balance Sheets

	As of December 31,	
	2016	**2015**
Assets		
Current assets:		
Cash and cash equivalents	**$ 3,324,609**	$ 1,313,421
Certificate of deposit	**10,666**	10,339
Other receivables	**164,743**	41,897
Prepaid expenses and other current assets	**72,983**	109,898
Total current assets	**3,573,001**	1,475,555
Property, plant and equipment, net	**1,723,707**	741,340
Definite-lived intangible assets, net	**198,698**	206,381
Indefinite-lived intangible assets	**191,800**	191,800
Other assets	**21,628**	21,628
Total assets	**$ 5,708,834**	$ 2,636,704
Liabilities and stockholders' equity (deficit)		
Current liabilities:		
Accounts payable and accrued liabilities	**$ 1,017,851**	$ 621,909
Current debt	**17,913**	—
Total current liabilities	**1,035,764**	621,909
Long-term debt	**2,645,015**	2,070,366
Total liabilities	**3,680,779**	2,692,275
Commitments and contingencies		
Stockholders' equity (deficit):		
Common stock, $0.001 par value, 200,000,000 shares authorized; 6,463,935 (2015: 5,247,604) shares outstanding	**6,464**	5,248
Additional paid-in capital	**101,581,724**	90,968,813
Accumulated other comprehensive loss	**(286,272)**	(226,432)
Accumulated deficit	**(99,273,861)**	(90,803,200)
Total stockholders' equity (deficit)	**2,028,055**	(55,571)
Total liabilities and stockholders' equity (deficit)	**$ 5,708,834**	$ 2,636,704

See accompanying notes to the consolidated financial statements and report of the independent registered public accounting firm.

Consolidated Financial Statements
for the years ended December 31, 2016, 2015, and 2014

AquaBounty Technologies, Inc.
Consolidated Statements of Operations and Comprehensive Loss

	Years ended December, 31		
	2016	**2015**	**2014**
Costs and expenses			
Sales and marketing	**$ 860,365**	$ 993,706	$ 729,655
Research and development	**3,429,400**	3,338,411	3,212,908
General and administrative	**3,775,289**	2,696,369	3,192,716
Total costs and expenses	**8,065,054**	7,028,486	7,135,279
Operating loss	**(8,065,054)**	(7,028,486)	(7,135,279)
Other income (expense)			
Interest expense	**(402,554)**	(10)	(62)
Gain on disposal of equipment	**2,861**	1,912	—
Other income (expense), net	**(5,914)**	(4,928)	7,966
Total other income (expense)	**(405,607)**	(3,026)	7,904
Net loss	**$(8,470,661)**	$(7,031,512)	$(7,127,375)
Other comprehensive income (loss):			
Foreign currency translation gain (loss)	**(59,840)**	228,740	111,138
Total other comprehensive income (loss)	**(59,840)**	228,740	111,138
Comprehensive loss	**$(8,530,501)**	$(6,802,772)	$(7,016,237)
Basic and diluted net loss per share	**$ (1.60)**	$ (1.40)	$ (1.52)
Weighted average number of common shares - basic and diluted	**5,303,113**	5,037,367	4,679,737

See accompanying notes to the consolidated financial statements and report of the independent registered public accounting firm.

Consolidated Financial Statements
for the years ended December 31, 2016, 2015, and 2014

AquaBounty Technologies, Inc.
Consolidated Statements of Changes in Stockholders' Equity (Deficit)

	Common stock issued and outstanding	Par value	Additional paid-in capital	Accumulated other comprehensive loss	Accumulated deficit	Total
Balance at December 31, 2013	4,176,941	$4,177	$ 77,703,338	$ (566,310)	$(76,644,313)	$ 496,892
Net loss					(7,127,375)	(7,127,375)
Other comprehensive income				111,138		111,138
Issuance of common stock, net of expenses	634,679	635	9,742,851			9,743,486
Exercise of options for common stock	4,000	4	12,296			12,300
Share based compensation	2,381	2	272,936			272,938
Balance at December 31, 2014	4,818,001	$4,818	$ 87,731,421	$ (455,172)	$(83,771,688)	$ 3,509,379
Net loss					(7,031,512)	(7,031,512)
Other comprehensive income				228,740		228,740
Issuance of common stock, net of expenses	424,269	425	2,999,575			3,000,000
Share based compensation	5,334	5	237,817			237,822
Balance at December 31, 2015	5,247,604	$5,248	$ 90,968,813	$ (226,432)	$(90,803,200)	$ (55,571)
Net loss					**(8,470,661)**	**(8,470,661)**
Other comprehensive loss				**(59,840)**		**(59,840)**
Conversion of debt and accrued interest to common stock	**1,212,908**	**1,213**	**10,394,620**			**10,395,833**
Cashless exercise of options for common stock	**524**	—	—			—
Share based compensation	**2,899**	**3**	**218,291**			**218,294**
Balance at December 31, 2016	**6,463,935**	**$6,464**	**$101,581,724**	**$ (286,272)**	**$(99,273,861)**	**$ 2,028,055**

See accompanying notes to the consolidated financial statements and report of the independent registered public accounting firm.

Consolidated Financial Statements
for the years ended December 31, 2016, 2015, and 2014

AquaBounty Technologies, Inc.
Consolidated Statements of Cash Flows

	Years ended December, 31		
	2016	**2015**	**2014**
Operating activities			
Net loss	**$ (8,470,661)**	$(7,031,512)	$ (7,127,375)
Adjustment to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	**153,996**	105,952	140,742
Share-based compensation	**218,294**	237,822	272,938
Gain on disposal of equipment	**(2,861)**	(1,912)	—
Non-cash interest expense	**395,833**	—	—
Changes in operating assets and liabilities:			
Other receivables	**(121,640)**	(21,195)	48,054
Prepaid expenses and other assets	**38,054**	(12,421)	117,876
Accounts payable and accrued liabilities	**340,092**	(25,032)	(13,135)
Net cash used in operating activities	**(7,448,893)**	(6,748,298)	(6,560,900)
Investing activities			
Purchase of property, plant and equipment	**(934,495)**	(74,113)	(116,911)
Deposits on equipment purchases	**(156,982)**	—	—
Proceeds from sale of equipment	**23,844**	—	—
Payment of patent costs	**(5,664)**	(30,372)	(35,340)
Net cash used in investing activities	**(1,073,297)**	(104,485)	(152,251)
Financing activities			
Proceeds from issuance of debt	**547,142**	44,004	268,491
Repayment of term debt	**(6,268)**	—	—
Proceeds from the issuance of convertible debt	**10,000,000**	—	—
Proceeds from the issuance of common stock, net	**—**	3,000,000	9,743,486
Proceeds from exercise of stock options	**—**	—	12,300
Net cash provided by financing activities	**10,540,874**	3,044,004	10,024,277
Effect of exchange rate changes on cash and cash equivalents	**(7,496)**	(41,062)	(23,613)
Net change in cash and cash equivalents	**2,011,188**	(3,849,841)	3,287,513
Cash and cash equivalents at beginning of period	**1,313,421**	5,163,262	1,875,749
Cash and cash equivalents at the end of period	**$ 3,324,609**	$ 1,313,421	$ 5,163,262
Supplemental disclosure of cash flow information and non-cash transactions:			
Interest paid in cash	**$ 6,721**	$ 10	$ 62
Conversion of convertible debt and accrued interest to common stock	**$10,395,833**	$ —	$ —
Acquisition of equipment through vendor payments	**$ 50,132**	$ —	$ —

See accompanying notes to the consolidated financial statements and report of the independent registered public accounting firm.

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1. Nature of business and organization

Nature of business

AquaBounty Technologies, Inc. (the "Parent") 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 (AFPs). 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 traditional salmon.

In 2015, the Parent obtained approval from the US Food and Drug Administration for the production, sale, and consumption of its AquAdvantage Salmon product in the United States.

In 2016, the Parent obtained approval from Health Canada for the sale and consumption of its AquAdvantage Salmon product in Canada. Previously, in 2013, the Parent obtained approval from Environment Canada for the production of the product.

AQUA Bounty Canada Inc. (the "Canadian Subsidiary") was incorporated in January 1994 in Canada for the purpose of establishing a commercial biotechnology laboratory to conduct research and development programs related to the Parent's technologies.

AquaBounty Panama, S. de R.L. (the "Panama Subsidiary") was incorporated in May 2008 in Panama for the purpose of conducting commercial trials of the Company's AquAdvantage Salmon.

AquaBounty Farms, Inc. (the "US Subsidiary") was incorporated in December 2014 in the State of Delaware for the purpose of conducting commercial trials of the Company's AquAdvantage Salmon.

AquaBounty Brasil Participacoes Ltda. (the "Brazil Subsidiary") was incorporated in May 2015 in Brazil for the purpose of conducting commercial trials of the Company's AquAdvantage Salmon.

Basis of presentation

The consolidated financial statements include the accounts of AquaBounty Technologies, Inc. and its wholly owned subsidiaries, AQUA Bounty Canada Inc.; AquaBounty Panama, S. de R.L.; AquaBounty Farms, Inc.; and AquaBounty Brasil Participacoes Ltda. The entities are collectively referred to herein as the "Company." All inter-company transactions and balances have been eliminated upon consolidation. Certain balances in the 2015 and 2014 Financial Statements have been reclassified to conform with the presentation of the 2016 Financial Statements.

On January 5, 2017, the Company implemented a 1-for-30 reverse share split of its outstanding common shares. All share balances in the Financial Statements and accompanying notes have been restated to reflect this change.

Liquidity and Management's Plan

The Company has adopted Accounting Standards Update 2014-15 "Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern" (Note 16). The core principle of the guidance is that an entity's management should evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the entity's ability to continue as a going concern within one year after the date that the financial statements are available to be issued. In accordance with the guidance, management has performed an

analysis and determined that there is no substantial doubt that the Company has sufficient funds to continue as a going concern. Therefore, 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.

The Company has experienced net losses and negative cash flows from operations since its inception and has cumulative losses attributable to common stockholders of $99.3 million as of December 31, 2016. The Company has historically financed its operations through issuances of equity and the proceeds of debt instruments and will continue to do so until such time that the Company is able to achieve positive cash flows from operations.

The Company continues to actively pursue various funding options, including equity offerings, to obtain additional funds to continue the development of its products and bring them to commercial markets. Management continues to assess fundraising opportunities to ensure minimal dilution to its existing shareholder base and to obtain the best price for its securities. In January 2017, the Company completed an equity subscription with Intrexon resulting in net proceeds of $25 million (Note 17).

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.

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 Panama, 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 (deficit).

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.

Certificate of deposit

The Company has a six-month certificate of deposit at December 31, 2016 and 2015, that currently bears interest at 0.45%. It is renewable semi-annually in January and July.

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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. Indefinite-lived intangible assets include trademark costs, which are capitalized with no amortization as they have an indefinite life.

Property, plant and equipment

Property, plant and equipment are carried at cost, except for those owned by the Canadian Subsidiary, which records such assets net of any related Canadian government grants received. The Company depreciates all asset classes over their estimated useful lives, as follows:

Building	25 years
Equipment	7 - 10 years
Office furniture and equipment	3 years
Leasehold improvements	shorter of asset life or lease term
Vehicles	3 years

Impairment of long-lived assets

The Company reviews the carrying value of its long-lived tangible assets and definite-lived intangible assets on an annual basis or more frequently if facts and circumstances suggest that they may be impaired. The carrying values of such assets are considered impaired when the anticipated identifiable 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 fair value. Indefinite-lived intangible assets are subject to impairment testing annually or more frequently if impairment indicators arise. The Company's impairment testing utilizes a discounted cash flow analysis that requires significant management judgment with respect to revenue and expense growth rates, changes in working capital, and the selection and use of the appropriate discount rate. An impairment loss is recognized in the amount of the difference between the carrying amount and fair value.

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. Generally, the Company is no longer subject to federal and state tax examinations by tax authorities for years before 2013.

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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 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.

Share-based compensation

The Company measures and recognizes all share-based payment awards, including stock options 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 stock-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.

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 manufacture, 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 and cash equivalents and certificates of deposit. This risk is minimized by the Company's policy of investing in financial instruments with short-term maturities issued by highly rated financial institutions. 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 totaled C$267,449 ($198,901) at December 31, 2016.

Financial instruments

The carrying amounts reported in the consolidated balance sheets for other receivables and accounts payable approximate fair value based on the short-term maturity of these instruments. The carrying value of term debt approximates its fair value since it provides for market terms and interest rates. Included in other assets is a long-term investment that consists of 216,281 shares of common stock of A/F Protein, Inc. (AFP), equating to less than 1% ownership, with a cost basis of $21,628, which the Company believes to be the best estimate of market value. AFP and the Company have certain shareholders in common.

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4. Property, plant and equipment

Major classifications of property, plant and equipment are summarized as follows for December 31, 2016 and 2015:

	2016	2015
Land	**$ 157,107**	$ 73,158
Building and improvements	**1,557,184**	1,143,384
Equipment	**1,194,531**	553,231
Office furniture and equipment	**78,780**	77,697
Vehicles	**27,201**	26,367
Total property and equipment	**$ 3,014,803**	$ 1,873,837
Less accumulated depreciation and amortization	**(1,291,096)**	(1,132,497)
Property, plant and equipment, net	**$ 1,723,707**	$ 741,340

Depreciation and amortization expense for 2016 on property, plant and equipment was $140,649 (2015: $104,842; 2014: 140,742).

During 2016, the Company purchased the property, plant and equipment of the former Atlantic Sea Smolt plant in Rollo Bay West on Prince Edward Island for $717,225, including legal and other expenses incurred. The Company allocated the purchase price to land, building, and equipment based on valuations and management's estimates. The Company intends to utilize this facility to raise its broodstock to supply Atlantic salmon eggs for the production of its AquAdvantage Salmon. The Company anticipates significant renovations to the site, and, during 2016, renovation costs incurred totaled C$203,047 ($151,006) with an additional C$1.1 million committed.

5. Definite-lived intangible assets

The following is a summary of definite-lived intangible assets at December 31, 2016 and 2015:

	2016	2015
Patents, gross	**$217,369**	$211,705
Less accumulated amortization	**(18,671)**	(5,324)
Definite-lived intangible assets, net	**$198,698**	$206,381

Patent amortization expense for 2016 was $13,347 (2015: $1,110; 2014: $0). Estimated amortization expense for each of the next five years is $13,347.

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6. Prepaid expenses and other current assets

Prepaid expenses and other current assets include the following at December 31, 2016 and 2015:

	2016	2015
Prepaid insurance	**$35,544**	$ 30,031
Prepaid supplies	**17,066**	13,837
Prepaid professional services	**17,533**	32,086
Prepaid rent and lease deposits	**2,840**	17,841
Other current assets	**—**	16,103
Total prepaid expenses and other current assets	**$72,983**	$109,898

7. Accounts payable and accrued liabilities

Accounts payable and accrued liabilities include the following at December 31, 2016 and 2015:

	2016	2015
Accounts payable	**$ 161,768**	$ 157,272
Accrued payroll including vacation	**242,436**	263,851
Accrued professional fees	**500,430**	82,036
Accrued research and development costs	**87,751**	100,583
Accrued other	**25,466**	18,167
Accounts payable and accrued liabilities	**$ 1,017,851**	$ 621,909

8. Debt

The current terms and conditions of long-term debt outstanding at December 31, 2016 and 2015, are as follows:

	Interest rate	Monthly repayment	Maturity date	2016	2015
ACOA AIF grant (C$2,871,919)	0%	Royalties	—	**$2,135,846**	$2,070,366
ACOA term loan (C$337,000)	0%	C$ 3,120	June 2026	**—**	—
PEI Finance term loan (C$717,093)	4%	C$ 4,333	July 2021	**527,082**	—
Total debt				**$2,662,928**	$2,070,366
less: current portion				**(17,913)**	—
Long-term debt				**$2,645,015**	$2,070,366

Principal payments due on the PEI Finance term loan debt are as follows:

Year	FPEI
2017	$ 17,913
2018	18,643
2019	19,403
2020	20,192
2021	450,931
Thereafter	—
Total	$527,082

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1. The amounts due under the ACOA AIF grant debt are not included in the maturity schedule above due to the uncertainty of the timing of repayment.

Atlantic Canada Opportunities Agency ("ACOA")

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

In January 2009, the Canadian Subsidiary was awarded a grant from ACOA to provide a contribution towards the funding of a research and development project. The total amount claimed under the award over the five-year claim period was C$2,871,919 ($2,135,846). No further funds are available under this grant. 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. The first scheduled repayment was June 30, 2015, and subsequent repayments are due annually until the full balance of the contributed funds is paid. The Company did not generate any revenue from the sale of products related to this research during 2015 or 2016 and therefore did not make a royalty payment during 2016 and does not expect to make a royalty payment during 2017.
In February 2016, the Canadian Subsidiary executed an agreement with ACOA to partially finance the renovations to the Rollo Bay site. The terms of the agreement include funding up to C$337,000 with repayment commencing after the final draw-down of the funds. The loan term is nine years with a zero percent interest rate. No funds have been drawn on the loan as of December 31, 2016.

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 in the amount of C$717,093 ($547,142) to partially finance the purchase of the assets of the former Atlantic Sea Smolt plant in Rollo Bay West on Prince Edward Island. The loan is being repaid through monthly payments of principal and interest with a balloon payment for the balance due in July 2021. The loan 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.

Intrexon

Intrexon is a public company specializing in next-generation synthetic biology and the Company's majority shareholder. In February 2016, Intrexon agreed to provide the Company with a $10.0 million convertible debt facility. The unsecured loan could be drawn-down in increments of $2.5 million, carried an interest rate of 10.0%, and all principal and accrued interest would mature on March 1, 2017. In December, Intrexon converted the outstanding balance of $10.0 million plus accrued interest of $395,833 into 1,212,908 common shares in the Company.

The Company recognized interest expense in 2016 of $402,554 (2015: $0; 2014: $0) on their interest-bearing debt.

9. Stockholders' equity

The Company is presently authorized to issue up to 240 million shares of stock, of which 40 million are authorized as preferred stock and 200 million as common stock. At December 31, 2016, the Company had zero shares (2015: zero) of preferred stock and 6,463,935 shares (2015: 5,247,604) of common stock, issued and outstanding.

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In November 2016, the Company's shareholders approved a reverse share split at several ratios, with the ultimate ratio to be decided by the Board. In December 2016, the Board approved a reverse share split ratio of 1-for-30 to be implemented on January 5, 2017. All share balances in the Financial Statements and accompanying notes have been restated to reflect this change.

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. At December 31, 2016, the Company had reserved 185,591 shares of common stock for the exercise of options.

Recent issuances

In December 2016, the Company issued 1,212,908 shares of common stock upon the conversion of the outstanding principal and accrued interest of $10.4 million on the convertible debt facility with Intrexon.
In June 2015 the Board approved a fundraising of $3.0 million by means of a subscription for new common shares by the Company's majority shareholder, Intrexon Corporation. The subscription price was $7.07 (450.0 pence) per share, which represented the closing price of the Company's stock on June 23, 2015, and the aggregate number of common shares subscribed was $424,269. The transaction closed on June 30, 2015.
In January 2014 the Board approved a fundraising of $10.0 million before expenses by means of a subscription for new common shares by the Company's majority shareholder, Intrexon Corporation. The subscription price was $15.76 (945.0 pence) per share, which represented the closing price of the Company's stock on March 4, 2014, and the aggregate number of common shares subscribed was 634,679. The transaction closed on March 20, 2014, with net proceeds to the Company of $9.7 million.

Restricted stock

The Company grants restricted common stock to the Chairman of the Board of Directors as part of his compensation package. Generally, the shares are fully vested upon the third anniversary of the grant date. Unvested shares can be cancelled upon termination of the Chairman's services.

A summary of the Company's unvested shares of restricted stock as of December 31, 2016, is as follows:

	Shares	Weighted average grant date fair value
Unvested at December 31, 2015	3,853	$ 5.81
Granted	2,899	9.62
Vested	(2,583)	7.00
Unvested at December 31, 2016	4,169	$ 7.72

During 2016, the Company expensed $18,070 (2015: $8,604; 2014: $25,577) related to the Chairman's restricted stock awards. At December 31, 2016, the balance of unearned share-based compensation to be expensed in future periods related to the restricted stock awards is $32,194. The period over which the unearned share-based compensation is expected to be earned is approximately two years.

Stock options

In 2006, the Company established the 2006 Equity Incentive Plan (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

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awards of restricted and direct stock purchases to Directors, officers, employees and consultants of the Company. In accordance with its original terms, no further shares may be granted under the 2006 Plan subsequent to 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 (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. The aggregate number of shares of common stock that may be issued pursuant to awards granted under the 2016 Plan cannot exceed 450,000. The 2016 Plan was approved by the Company's shareholders at its Annual Meeting on April 26, 2016. As of December 31, 2016, no awards have been granted under the 2016 Plan.

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

	Number of options	Weighted average exercise price
Outstanding at December 31, 2015	179,426	$ 7.83
Issued	7,500	9.60
Exercised	(1,085)	6.25
Expired	(250)	23.40
Outstanding at December 31, 2016	185,591	$ 7.89
Exercisable at December 31, 2016	181,766	$ 7.86

In September 2016, the Company issued 524 shares of common stock in a cashless exercise of 1,085 stock options by an employee.

Unless otherwise indicated, options issued to employees, members of the Board of Directors and non-employees are vested over one to three years and are exercisable for a term of ten years from the date of issuance.

The weighted average fair value of stock options granted during 2016 was $4.46 (2015: $4.06; 2014: $17.40). The total intrinsic value of options exercised in 2016 was $6,338 (2015: $0; 2014: $40,428). At December 31, 2016, the total intrinsic value of all options outstanding was $602,773 (2015: $934,081), the total intrinsic value of exercisable options was $597,872 (2015: $844,224), and the total number of shares available for grant under the 2006 Plan and 2016 Plan was 450,000 (2015: 345,351).

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The following table summarizes information about options outstanding and exercisable at December 31, 2016:

Weighted average exercise price of outstanding options	Number of options outstanding	Weighted average remaining estimated life (in years)	Number of options exercisable	Weighted average price of outstanding and exercisable options
$ 3.30	87,671	2.5	87,671	
$ 3.60	800	5.5	800	
$ 5.70	10,336	8.2	9,760	
$ 6.90	29,038	4.5	27,466	
$ 7.50	15,837	6.3	15,837	
$ 9.60	8,300	8.7	7,064	
$ 9.90	800	1.5	800	
$ 10.50	1,600	6.5	1,600	
$ 10.80	2,400	7.5	2,400	
$ 19.50	2,554	0.5	2,554	
$ 23.40	26,255	7.1	25,814	
	185,591		181,766	$ 7.86

The fair values of stock option grants to employees and members of the Board of Directors during 2016, 2015, and 2014 were measured on the date of grant using Black-Scholes, with the following weighted average assumptions:

	2016	2015	2014
Expected volatility	**53%**	88%	105%
Risk free interest rate	**1.31%**	1.54%	1.67%
Expected dividend yield	**0.0%**	0.0%	0.0%
Expected life (in years)	**5**	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. 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 $200,224 in 2016 (2015: $229,218; 2014: $247,361). At December 31, 2016, the balance of unearned share-based compensation to be expensed in future periods related to unvested share-based awards is $26,090. The period over which the unearned share-based compensation is expected to be earned is approximately two years.

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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, 2016, 2015, and 2014:

	2016	2015	2014
Research and development	**$ 2,115**	$ 6,699	$ 29,910
Sales and marketing	**65,517**	75,843	75,843
General and administrative	**150,662**	155,280	167,185
Total share-based compensation	**$218,294**	$237,822	$272,938

10. Income taxes

The components of loss before income taxes for the years ended December 31, 2016, 2015, and 2014, are presented below:

	2016	2015	2014
Domestic	**$ (5,950,862)**	$ (4,780,607)	$ (4,772,727)
Foreign	**(2,519,799)**	(2,250,905)	(2,354,648)
Loss before income taxes	**$ (8,470,661)**	$ (7,031,512)	$ (7,127,375)

Income taxes computed using the federal statutory income tax rate differs from the Company's effective tax rate for the years ended December 31, 2016, 2015, and 2014, primarily due to the following:

	2016	2015	2014
Income tax benefit	**$(2,880,025)**	$(2,390,714)	$(2,423,308)
State and provincial income tax, net of federal benefit	**(604,354)**	(47,976)	(449,481)
Permanent differences	**234,247**	158,207	367,766
US-Foreign rate differential	**359,729**	(165,029)	245,256
Other, net	**73,220**	(11,125)	581,653
	(2,817,183)	(2,456,637)	(1,678,114)
Change in valuation allowance	**2,817,183**	2,456,637	1,678,114
Total income tax	**$ —**	$ —	$ —

As of December 31, 2016, the Company has net domestic operating loss carryforwards of approximately $22.2 million to offset future federal taxable income, which begin to expire in 2018. The future utilization of the 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 has foreign net operating loss carryforwards in the amount of approximately $12.9 million and foreign research and development expense tax credits of approximately $2.4 million at December 31, 2016, which expire at various times commencing in 2018. 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.

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

	2016	2015
Deferred tax assets:		
Net operating loss carryforwards	**$ 12,844,999**	$ 10,166,675
Foreign research and development tax credit carryforwards	**2,428,094**	2,225,961
Property and equipment	**412,283**	374,253
Accounts receivable and other	**400**	400
Stock options	**50,580**	163,109
Accrued vacation	**34,107**	33,014
Intangible assets	**(162,057)**	(172,189)
Total deferred tax assets	**$ 15,608,406**	$ 12,791,223
Valuation allowance	**$ (15,608,406)**	$ (12,791,223)
Net deferred tax assets	**$ —**	$ —

The valuation allowance increased by $2,817,183 during 2016 and increased by $2,456,637 during 2015. The increase in both years was due primarily to an increase in deferred tax assets for net operating loss carryforwards and foreign tax credits, offset by a decrease in stock options.

11. 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.

Lease commitments

In May 2016, the Company extended its lease for its Panama farm site. The lease has a term of two years, ending in May 2018, with total rent payments of $360,000.

In addition, the Company leases office space in Brazil and Maynard, Massachusetts on a month-to-month basis.

Total rent expense in 2016 was $202,788 (2015: $202,237; 2014: $349,641). Future minimum commitments under the Company's operating leases are $240,000 with $180,000 in 2017 and $60,000 in 2018.

Employment agreements

The Company has employment agreements with certain of its officers. The agreements provide for base pay and benefits, as defined. Under certain circumstances of termination, the Company must make severance payments.

12. 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 year ended December 31, 2016, amounted to $33,422 (2015: $29,931; 2014: $24,018).

AquaBounty Technologies, Inc.
Notes to the Consolidated Financial Statements
for the years ended December 31, 2016, 2015, and 2014

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 year ended December 31, 2016, amounted to $21,777 (2015: $16,274; 2014: $16,566).

13. Government Assistance

From time to time, the Company receives government assistance in the form of research grants, which are recorded as a reduction of research and development expenditures. During 2016, grants of $33,451 (2015: $70,338; 2014: $192,773) were recorded as a reduction of expenditures. At December 31, 2016, there was $12,629 (2015: $13,829) due to the Company under research grants. All government assistance is subject to periodic audit by the agency involved in the grant.

14. Contract Research Agreement

In March 2012, the Company executed a contract research agreement with Tethys Aquaculture Canada Inc. ("TAC"), to provide the Company with the resources required for its ongoing development needs. Under the terms of the extended agreement, TAC would provide services to the Company through September 30, 2016, and on a project-related basis thereafter. Total costs incurred under the terms of this agreement amounted to $103,208 in 2016 (2015: $287,246; 2014: $338,993) and are included as a component of research and development expense in the Consolidated Statements of Operations and Comprehensive Loss.

In February 2015, the Company executed a contract research agreement with the Center for Aquaculture Technologies, Inc. ("CAT") to provide research services for a specific project. Under the terms of the extended agreement, CAT provided services to the Company through December 31, 2016. Total costs incurred amounted to $172,966 in 2016 (2015: $185,426) and are included as a component of research and development expense in the Consolidated Statements of Operations and Comprehensive Loss. The contract with CAT has been extended for 2017.

15. Related Party Collaboration Agreement

In February 2013, the Company entered into the ECC with Intrexon Corporation, its majority shareholder, pursuant to which the Company will use Intrexon's UltraVector and other technology platforms to develop and commercialize additional genetically modified traits in finfish for human consumption. The ECC, which can be terminated by the Company upon 90 days' written notice, grants the Company a worldwide license to use specified patents and other intellectual property of Intrexon in connection with the research, development, use, importing, manufacture, sale, and offer for sale of products involving DNA administered to finfish for human consumption. Such license is exclusive with respect to any clinical development, selling, offering for sale, or other commercialization of developed products, and otherwise is non-exclusive.

Under the ECC and subject to certain exceptions, the Company is responsible for, among other things, the performance of the program, including development, commercialization, and certain aspects of manufacturing developed products. Among other things, Intrexon is responsible for the costs of establishing manufacturing capabilities and facilities for the bulk manufacture of certain products developed under the program; certain other aspects of manufacturing; costs of discovery-stage research with respect to platform improvements; and costs of filing, prosecution, and maintenance of Intrexon's patents.

AquaBounty Technologies, Inc.
Notes to the Consolidated Financial Statements
for the years ended December 31, 2016, 2015, and 2014

The Company will pay Intrexon quarterly 16.66% of the gross profits calculated under the terms of the agreement for each developed product. The Company has likewise agreed to pay Intrexon 50% of quarterly revenue obtained from a sublicensor in the event of a sublicensing arrangement. In addition, the Company will reimburse Intrexon for the costs of certain services provided by Intrexon. No royalties were paid to Intrexon in 2016 and the Company does not expect to pay royalties in 2017.

Total Intrexon service costs incurred under the terms of this agreement amounted to $912,182 in 2016 (2015: $1,186,404; 2014: $1,091,021), of which $73,780 is included in accounts payable and accrued liabilities at December 31, 2016 (2015: $79,388) and is included as a component of research and development expense in the Consolidated Statements of Operations and Comprehensive Loss.

16. Recently Issued Accounting Standards

Recently issued accounting pronouncements that may be relevant to the Company are the following:
In August 2014, the Financial Accounting Standards Board (the "FASB") issued Accounting Standards Update ("ASU") 2014-15 "Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern." The core principle of the guidance is that an entity's management should evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the entity's ability to continue as a going concern within one year after the date that the financial statements are available to be issued. When management identifies conditions or events that raise substantial doubt about an entity's ability to continue as a going concern, management should consider whether its plans that are intended to mitigate those relevant conditions or events that will alleviate the substantial doubt are adequately disclosed in the footnotes to the financial statements. This guidance is now effective and has been adopted by the Company.

In February 2016, the FASB issued ASU 2016-02, "Leases," which requires a lessee to recognize lease liabilities for the lessee's obligation to make lease payments arising from a lease, measured on a discounted basis, and right-of-use assets, representing the lessee's right to use, or control the use of, specified assets for the lease term. Additionally, the new guidance has simplified accounting for sale and leaseback transactions. Lessor accounting is largely unchanged. The ASU is effective for fiscal years beginning after December 15, 2018.

In March 2016, the FASB issued ASU No. 2016-09, "Compensation – Stock Compensation." The areas for simplification in this update involve several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. For public entities, the amendments in this update are effective for annual periods beginning after December 15, 2016, and interim periods within those annual periods. The Company does not expect that adoption of this ASU will have an impact on the financial statements.

In August 2016, the FASB issued ASU No. 2016-15, "Statement of Cash Flows," which provides specific guidance on eight cash flow classification issues. For public entities, the amendments in this update are effective for annual periods beginning after December 15, 2017, and interim periods within those annual periods. The Company is currently evaluating the impact of adopting this ASU on the financial statements.

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

AquaBounty Technologies, Inc.
Notes to the Consolidated Financial Statements
for the years ended December 31, 2016, 2015, and 2014

17. Quarterly Financial Information (unaudited)

The following information has been derived from unaudited consolidated statements that, in the opinion of management, include all recurring adjustments necessary for a fair statement of such information.

	Three Months Ended 2016			
	March 31	June 30	September 30	December 31
Operating loss	$ (1,796,159)	$ (1,979,021)	$ (2,008,917)	$ (2,280,957)
Net loss	(1,818,977)	(2,063,836)	(2,141,826)	(2,446,022)
Basic and diluted net loss per share	$ (0.350)	$ (0.390)	$ (0.410)	$ (0.450)

	Three Months Ended 2015			
	March 31	June 30	September 30	December 31
Operating loss	$ (1,800,363)	$ (1,732,163)	$ (1,657,469)	$ (1,838,491)
Net loss	(1,802,126)	(1,733,112)	(1,658,405)	(1,837,869)
Basic and diluted net loss per share	$ (0.370)	$ (0.360)	$ (0.320)	$ (0.350)

18. Subsequent events

On January 18, 2017, the Company closed an equity subscription of $25.0 million with its majority shareholder, Intrexon, for 2,421,073 common shares at a price of $10.326. The financing was approved by the Board in November 2016 and closed after the Company completed a listing of its common shares on the Nasdaq Capital Market.

On January 5, 2017, the Company implemented a 1-for-30 reverse share split, which had been approved by the Company's shareholders in November 2016. The split ratio was determined by the Board in December 2016.

Consolidated Financial Statements
for the nine months ended September 30, 2017 and 2016 (unaudited)

AquaBounty Technologies, Inc.
Consolidated Balance Sheets
(Unaudited)

	As of	
	September 30, 2017	December 31, 2016
Assets		
Current assets:		
Cash and cash equivalents	**$ 4,717,821**	$ 3,324,609
Certificate of deposit	**13,489**	10,666
Other receivables	**219,334**	164,743
Inventory	**78,499**	—
Prepaid expenses and other current assets	**245,242**	72,983
Total current assets	**5,274,385**	3,573,001
Property, plant and equipment, net	**19,478,853**	1,723,707
Definite-lived intangible assets, net	**188,421**	198,698
Indefinite-lived intangible assets	**191,800**	191,800
Other assets	**162,093**	21,628
Total assets	**$ 25,295,552**	$ 5,708,834
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable and accrued liabilities	**$ 1,602,396**	$ 1,017,851
Current debt	**55,223**	17,913
Total current liabilities	**1,657,619**	1,035,764
Long-term debt	**3,059,990**	2,645,015
Total liabilities	**4,717,609**	3,680,779
Commitments and contingencies		
Stockholders' equity:		
Common stock, $0.001 par value, 200,000,000 shares authorized; 8,895,094 (2016: 6,463,936) shares outstanding	**8,895**	6,464
Additional paid-in capital	**126,681,495**	101,581,724
Accumulated other comprehensive loss	**(243,188)**	(286,272)
Accumulated deficit	**(105,869,259)**	(99,273,861)
Total stockholders' equity	**20,577,943**	2,028,055
Total liabilities and stockholders' equity	**$ 25,295,552**	$ 5,708,834

See accompanying notes to these unaudited interim consolidated financial statements.

Consolidated Financial Statements
for the nine months ended September 30, 2017 and 2016 (unaudited)

AquaBounty Technologies, Inc.
Consolidated Statements of Operations and Comprehensive Loss
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	**2017**	2016
Revenues				
Product revenues	**$ —**	$ —	**$ 53,278**	$ —
Costs and expenses				
Product costs	**—**	—	**50,777**	—
Sales and marketing	**195,947**	209,556	**607,145**	650,075
Research and development	**860,903**	974,980	**2,517,242**	2,705,978
General and administrative	**1,382,380**	824,381	**3,453,516**	2,428,044
Total costs and expenses	**2,439,230**	2,008,917	**6,628,680**	5,784,097
Operating loss	**(2,439,230)**	(2,008,917)	**(6,575,402)**	(5,784,097)
Other income (expense)				
Gain on disposal of equipment	**—**	—	**—**	2,861
Interest expense	**(5,597)**	(131,301)	**(16,130)**	(238,940)
Other income (expense), net	**(1,392)**	(1,608)	**(3,866)**	(4,463)
Total other income (expense)	**(6,989)**	(132,909)	**(19,996)**	(240,542)
Net loss	**$(2,446,219)**	$(2,141,826)	**$(6,595,398)**	$(6,024,639)
Other comprehensive income (loss):				
Foreign currency translation gain (loss)	**34,933**	13,659	**43,084**	(86,516)
Total other comprehensive income (loss)	**34,933**	13,659	**43,084**	(86,516)
Comprehensive loss	**$(2,411,286)**	$(2,128,167)	**$(6,552,314)**	$(6,111,155)
Basic and diluted net loss per share	**$ (0.28)**	$ (0.41)	**$ (0.76)**	$ (1.15)
Weighted average number of common shares - basic and diluted	**8,895,094**	5,250,510	**8,731,178**	5,249,776

See accompanying notes to these unaudited interim consolidated financial statements.

Consolidated Financial Statements
for the nine months ended September 30, 2017 and 2016 (unaudited)

AquaBounty Technologies, Inc.
Consolidated Statements of Changes in Stockholders' Equity
(Unaudited)

	Common stock issued and outstanding	Par value	Additional paid-in capital	Accumulated other comprehensive loss	Accumulated deficit	Total
Balance at December 31, 2016	6,463,936	$ 6,464	$ 101,581,724	$ (286,272)	$ (99,273,861)	$ 2,028,055
Net loss					**(6,595,398)**	**(6,595,398)**
Other comprehensive loss				**43,084**		**43,084**
Issuance of common stock, net of expenses	**2,421,073**	**2,421**	**24,986,836**			**24,989,257**
Exercise of options for common stock	**8,334**	**8**	**27,494**			**27,502**
Share based compensation	**1,751**	**2**	**85,441**			**85,443**
Balance at September 30, 2017	**8,895,094**	**$ 8,895**	**$ 126,681,495**	**$ (243,188)**	**$ (105,869,259)**	**$ 20,577,943**

See accompanying notes to these unaudited interim consolidated financial statements.

Consolidated Financial Statements
for the nine months ended September 30, 2017 and 2016 (unaudited)

AquaBounty Technologies, Inc.
Consolidated Statements of Cash Flows
(Unaudited)

	Nine Months Ended September 30,	
	2017	2016
Operating activities		
Net loss	**$ (6,595,398)**	$(6,024,639)
Adjustment to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	**137,229**	109,207
Share-based compensation	**85,443**	166,478
Gain on disposal of equipment	**—**	(2,861)
Changes in operating assets and liabilities:		
Other receivables	**(43,346)**	13,174
Inventory	**(78,499)**	—
Prepaid expenses and other assets	**(309,986)**	(27,313)
Accounts payable and accrued liabilities	**128,917**	332,254
Net cash used in operating activities	**(6,675,640)**	(5,433,700)
Investing activities		
Purchase of property, plant and equipment	**(17,235,184)**	(757,402)
Proceeds from sale of equipment	**—**	23,844
Payment of patent costs	**—**	(5,665)
Net cash used in investing activities	**(17,235,184)**	(739,223)
Financing activities		
Proceeds from issuance of debt	**256,807**	547,142
Repayment of term debt	**(23,677)**	(1,866)
Proceeds from the issuance of convertible debt	**—**	7,500,000
Proceeds from the issuance of common stock, net	**24,989,257**	—
Proceeds from the exercise of stock options	**27,502**	—
Net cash provided by financing activities	**25,249,889**	8,045,276
Effect of exchange rate changes on cash and cash equivalents	**54,147**	(2,249)
Net change in cash and cash equivalents	**1,393,212**	1,870,104
Cash and cash equivalents at beginning of period	**3,324,609**	1,313,421
Cash and cash equivalents at the end of period	**$ 4,717,821**	$ 3,183,525
Supplemental disclosure of cash flow information and non-cash transactions:		
Interest paid in cash	**$ 16,130**	$ 1,440
Property and equipment included in accounts payable and accrued liabilities	**$ 472,283**	$ —

See accompanying notes to these unaudited interim consolidated financial statements.

Notes to the consolidated financial statements for the nine months ended September 30, 2017 and 2016 (unaudited)

1. Nature of business and organization

AquaBounty Technologies, Inc. (the "Parent" and, together with its 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 traditional salmon.

In 2015, the Parent obtained approval from the US Food and Drug Administration (the "FDA") for the production, sale, and consumption of its AquAdvantage® Salmon product in the United States.
In 2016, the Parent obtained approval from Health Canada, the department of the government of Canada responsible for national public health, for the sale and consumption of its AquAdvantage Salmon product in Canada. Previously, in 2013, the Parent obtained approval from Environment Canada, the agency of the government of Canada responsible for regulating environmental policies and issues, for the production of the product.

AQUA Bounty Canada Inc. (the "Canadian Subsidiary") was incorporated in January 1994 in Canada for the purpose of establishing a commercial biotechnology laboratory to conduct research and development programs related to the Parent's technologies.

AquaBounty Panama, S. de R.L. (the "Panama Subsidiary") was incorporated in May 2008 in Panama for the purpose of conducting commercial trials of the Company's AquAdvantage Salmon.

AquaBounty Farms, Inc. ("AquaBounty Farms") was incorporated in December 2014 in the State of Delaware for the purpose of conducting field trials and commercializing the Company's AquAdvantage Salmon in the United States.

AquaBounty Farms Indiana LLC (the "Indiana Subsidiary") was formed in June 2017 in the State of Delaware for the purpose of operating the Company's aquaculture facility in Albany, Indiana, and is wholly owned by AquaBounty Farms.

AquaBounty Brasil Participações Ltda. (the "Brazil Subsidiary") was incorporated in May 2015 in Brazil for the purpose of conducting commercial trials of the Company's AquAdvantage Salmon.

2. Basis of presentation

The unaudited interim consolidated financial statements include the accounts of AquaBounty Technologies, Inc. and its wholly owned direct and indirect subsidiaries, AQUA Bounty Canada Inc.; AquaBounty Panama, S. de R.L.; AquaBounty Farms, Inc.; AquaBounty Farms Indiana LLC; and AquaBounty Brasil Participações Ltda. All inter-company transactions and balances have been eliminated upon consolidation.

The unaudited interim consolidated financial statements have been prepared in conformity with generally accepted accounting principles in the United States ("GAAP") consistent with those applied in, and should be read in conjunction with, the Company's audited financial statements and related footnotes for the year ended December 31, 2016. The unaudited interim consolidated financial statements reflect all adjustments, consisting only of normal recurring adjustments, which are, in the opinion of management, necessary for a fair presentation of the Company's financial position as of September 30, 2017, and its results of operations and cash flows for the interim periods presented and are not necessarily indicative of results for subsequent interim periods or for the full year. The unaudited interim consolidated financial statements do not include all of the information and

Notes to the consolidated financial statements for the nine months ended September 30, 2017 and 2016 (unaudited)

footnotes required by GAAP for complete financial statements, as allowed by the relevant SEC rules and regulations; however, the Company believes that its disclosures are adequate to ensure that the information presented is not misleading.

On January 5, 2017, the Company implemented a 1-for-30 reverse split of its outstanding common shares. All share balances in the unaudited interim consolidated financial statements and accompanying notes have been restated to reflect this change.

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 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.

Accounting Pronouncements

The Company has adopted Accounting Standards Update ("ASU") 2017-01, "Business Combinations: Clarifying the Definition of a Business." The revised guidance changes the definition of a business to assist entities with evaluating whether a set of transferred assets and activities is a business.

The Company has adopted ASU 2014-09, "Revenue from Contracts with Customers," which supersedes the revenue recognition requirements in Accounting Standard Codification ("ASC") 605, "Revenue Recognition," and most industry-specific guidance throughout the ASC. ASU 2014-09 established principles for recognizing revenue upon the transfer of promised goods or services to customers, in an amount that reflects the expected consideration received in exchange for those goods or services.

The Company has adopted ASU 2015-11, "Inventory: Simplifying the Measurement of Inventory." The main provision of the guidance is that an entity should measure inventory at the lower of cost or net realizable value ("NRV"), where NRV is defined as the estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation.

The Company has adopted ASU 2016-09, "Compensation – Stock Compensation." The areas for simplification in this update involve several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows.

Liquidity and Management's Plan

At September 30, 2017, the Company's cash balance totaled $4.7 million. Management has evaluated the Company's cash resources in view of its planned spending for ongoing operations, capital expenditures, and working capital for the next twelve months and has determined that its current funds will be used by the end of December 2017. However, management believes that the Company can continue as a going concern. Management's assessment is based on its belief that the Company will be able to raise additional equity or debt to fund its requirements. Additionally, management could slow down spending to conserve the Company's cash if there is a delay in obtaining new funding. Therefore, 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.

Notes to the consolidated financial statements for the nine months ended September 30, 2017 and 2016 (unaudited)

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 manufacture, 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 and cash equivalents and certificates of deposit. This risk is minimized by the Company's policy of investing in financial instruments with short-term maturities issued by highly rated financial institutions. 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 mitigated by the Company's policy to limit the balances held in these accounts. Balances in Canadian bank accounts totaled $85,005 at September 30, 2017.

Financial instruments

The carrying amounts reported in the consolidated balance sheets for other receivables and accounts payable approximate fair value based on the short-term maturity of these instruments. As of September 30, 2017, the carrying value of term debt approximates its fair value since it provides for market terms and interest rates.

Included in other assets is a long-term investment that consists of 216,281 shares of common stock of A/F Protein, Inc. ("AFP"), equating to less than 1% ownership, with a cost basis of $21,628, which the Company believes to be the best estimate of market value.

4. Inventory

Major classifications of inventory are summarized as follows:

	September 30, 2017	December 31, 2016
Feed	**$ 36,403**	$ —
Fish in process	**42,096**	—
Total inventory	**$ 78,499**	$ —

Notes to the consolidated financial statements for the nine months ended September 30, 2017 and 2016 (unaudited)

5. Property, plant and equipment

Major classifications of property, plant and equipment are summarized as follows:

	September 30, 2017	December 31, 2016
Land	**$ 665,733**	$ 157,107
Building and improvements	**8,618,289**	1,436,814
Construction in process	**3,731,112**	277,352
Equipment	**7,873,930**	1,037,549
Office furniture and equipment	**81,521**	78,780
Vehicles	**29,311**	27,201
Total property and equipment	**$20,999,896**	$ 3,014,803
Less accumulated depreciation and amortization	**(1,521,043)**	(1,291,096)
Property, plant and equipment, net	**$19,478,853**	$ 1,723,707

Depreciation and amortization expense was $126,951 and $99,196 for the nine months ended September 30, 2017 and 2016, respectively.

Included as construction in process is $3.7 million for renovation and new construction costs incurred at our Rollo Bay farm site. The Company currently has an additional $2.1 million committed to these renovations.

On June 22, 2017, the Company purchased the aquaculture facility of Bell Fish Company LLC in Albany, Indiana, for $14.2 million, including legal and other expenses incurred. The facility and related assets acquired from Bell Fish Company LLC provide one input into the Company's process for growing its product, and, accordingly, the purchase of the facility was accounted for as an asset purchase rather than the acquisition of a "business," consistent with ASU 2017-01, "Business Combinations: Clarifying the Definition of a Business." There are no future obligations related to the asset purchase for the Company, no liabilities were assumed, and no workforce, inventory, or customers were acquired. The Company allocated the purchase price to land, buildings, and equipment based on external valuations and management's estimates. The Company intends to invest approximately $5.0 million to upgrade the facility for use to grow out its AquAdvantage Salmon for harvest and sale in the United States. The facility is currently idle while repairs and upgrades are performed.

6. Accounts payable and accrued liabilities

Accounts payable and accrued liabilities include the following:

	September 30, 2017	December 31, 2016
Accounts payable	**$ 490,840**	$ 161,768
Accrued payroll including vacation	**316,588**	242,436
Accrued professional fees	**211,232**	500,430
Accrued research and development costs	**65,000**	87,751
Accrued taxes	**126,990**	22,994
Accrued construction costs	**387,038**	—
Accrued other	**4,708**	2,472
Accounts payable and accrued liabilities	**$ 1,602,396**	$ 1,017,851

Notes to the consolidated financial statements for the nine months ended September 30, 2017 and 2016 (unaudited)

7. Debt

The current material terms and conditions of debt outstanding are as follows:

	Interest rate	Monthly repayment	Maturity date	September 30, 2017	December 31, 2016
ACOA AIF grant (C$2,871,919)	0%	Royalties	—	**$ 2,301,556**	$ 2,135,846
ACOA term loan (C$337,000)	0%	C$3,120	June 2026	**260,071**	—
Finance PEI term loan (C$717,093)	4%	C$4,333	July 2021	**553,586**	527,082
Total debt				**$ 3,115,213**	$ 2,662,928
less: current portion				**(55,223)**	(17,913)
Long-term debt				**$ 3,059,990**	$ 2,645,015

Estimated principal payments remaining on loan debt are as follows (1):

Year	Total
2017	$ 12,414
2018	60,094
2019	60,912
2020	349,662
2021	2,499,578
Thereafter	132,553
Total	$3,115,213

(1) Repayments of the AIF grants are based on revenue projections for AquAdvantage Salmon.

Atlantic Canada Opportunities Agency ("ACOA")

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

In January 2009, the Canadian Subsidiary was awarded a grant from ACOA to provide a contribution towards the funding of a research and development project. The total amount claimed under the award over the five-year claim period was $2,301,556. No further funds are available under this grant. 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. The Company expects to make its first repayment in 2018.

In February 2016, the Canadian Subsidiary executed an agreement with ACOA to partially finance the renovations to the Rollo Bay site. The terms of the agreement include funding up to $270,072 with repayment commencing after the final draw-down of the funds. The loan term is nine years with a zero percent interest rate. As of September 30, 2017, the Canadian Subsidiary has drawn down the full amount of available funds and commenced repayment.

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 in the amount of $574,678 to partially finance the purchase of the assets of

the former Atlantic Sea Smolt plant in Rollo Bay West on Prince Edward Island. The loan is being repaid through monthly payments of principal and interest with a balloon payment for the balance due in July 2021. The loan 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.

The Company recognized interest expense of $16,112 and $238,931 for the nine months ended September 30, 2017 and 2016, respectively, on its interest-bearing debt. Interest expense in 2016 included $237,500 for the convertible debt facility with Intrexon Corporation ("Intrexon"), its majority shareholder.

8. Stockholders' equity

The Company is presently authorized to issue up to 240 million shares of stock, of which 40 million are authorized as preferred stock and 200 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.

Restricted stock

The Company grants restricted common stock to the Chairman of the Board of Directors as part of his compensation package. Generally, the shares are fully vested upon the third anniversary of the grant date. Unvested shares can be canceled upon termination of the Chairman's services.

A summary of the Company's unvested shares of restricted stock as of September 30, 2017, is as follows:

	Shares	Weighted average grant date fair value
Unvested at December 31, 2016	4,169	$ 7.72
Granted	1,751	14.20
Vested	(2,378)	8.09
Unvested at September 30, 2017	3,542	$ 10.68

During the nine months ended September 30, 2017 and 2016, the Company expensed $19,235 and $13,165, respectively, related to the Chairman's restricted stock awards. At September 30, 2017, the balance of unearned share-based compensation to be expensed in future periods related to the restricted stock awards is $37,817. The period over which the unearned share-based compensation is expected to be earned is approximately 2.4 years.

Stock options

In 2006, the Company established its 2006 Equity Incentive Plan (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, no further shares may be granted under the 2006 Plan subsequent to March 18, 2016. All outstanding awards under the 2006 Plan will continue until their individual termination dates.

Notes to the consolidated financial statements for the nine months ended September 30, 2017 and 2016 (unaudited)

In March 2016, the Company's Board of Directors adopted the AquaBounty Technologies, Inc. 2016 Equity Incentive Plan (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. The aggregate number of shares of common stock that may be issued pursuant to awards granted under the 2016 Plan cannot exceed 450,000. The 2016 Plan was approved by the Company's shareholders at its Annual Meeting on April 26, 2016.

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, 2016	185,591	$ 7.89
Issued	52,500	14.20
Exercised	(8,334)	3.30
Expired	(2,554)	19.50
Outstanding at September 30, 2017	227,203	$ 9.39
Exercisable at September 30, 2017	183,373	$ 8.28

Unless otherwise indicated, options issued to employees, members of the Board of Directors, and non-employees are vested over one to three years and are exercisable for a term of ten years from the date of issuance.

The weighted average fair value of stock options granted during the nine months ended September 30, 2017, was $4.55. The intrinsic value of options exercised during the nine months ended September 30, 2017, was $43,420. The total intrinsic value of all options outstanding was $325,754 and $602,773 at September 30, 2017, and December 31, 2016, respectively. The total intrinsic value of exercisable options was $325,310 and $597,872 at September 30, 2017, and December 31, 2016, respectively.

The following table summarizes information about options outstanding and exercisable at September 30, 2017:

Weighted average exercise price of outstanding options	Number of options outstanding	Weighted average remaining estimated life (in years)	Number of options exercisable	Weighted average exercise price of outstanding and exercisable options
$3.30	79,337	1.8	79,337	
$3.60	800	4.8	800	
$5.70	10,336	7.4	10,132	
$6.90	29,038	3.7	28,296	
$7.50	15,837	5.6	15,837	
$9.60	8,300	7.9	8,300	
$9.90	800	0.8	800	
$10.50	1,600	5.8	1,600	
$10.80	2,400	6.8	2,400	
$14.20	52,500	9.6	9,616	
$23.40	26,255	6.3	26,255	
	227,203		183,373	$ 8.28

Notes to the consolidated financial statements for the nine months ended September 30, 2017 and 2016 (unaudited)

Total share-based compensation on stock-option grants amounted to $66,208 and $153,313 for the nine months ended September 30, 2017 and 2016, respectively. At September 30, 2017, the balance of unearned share-based compensation to be expensed in future periods related to unvested share-based awards was $186,921. The period over which the unearned share-based compensation is expected to be earned is approximately 2.4 years.

9. 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.

In July 2017, the Company extended the lease for its office space in Maynard, Massachusetts. The new lease for 3,558 square feet of office space has a term of five years and seven months, ending March 2023, with total annual rent payments of approximately $60 thousand increasing to $68 thousand during the term of the lease. The lease includes a period of free rent totaling $26,830, which is being amortized over the lease term. There have been no other material changes to the commitments and contingencies disclosed in our annual report on Form 10-K as of and for the year ended December 31, 2016.

10. Related Party Collaboration Agreement

In February 2013, the Company entered into an Exclusive Channel Collaboration agreement (“ECC”) with Intrexon pursuant to which the Company will use Intrexon’s UltraVector and other technology platforms to develop and commercialize additional genetically modified traits in finfish for human consumption.

Total Intrexon service costs incurred under the terms of this agreement for the nine months ended September 30, 2017 and 2016, amounted to $447,382 and $717,141, respectively, and are included as a component of research and development expense in our Consolidated Statements of Operations and Comprehensive Loss. Included in accounts payable and accrued liabilities at September 30, 2017, and December 31, 2016, are amounts due to Intrexon under the ECC totaling $65,000 and $73,780, respectively.

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Shares of Common Stock

PRELIMINARY PROSPECTUS

, 2017

H.C. WAINWRIGHT & CO.

Part II

Information not required in prospectus

Item 13. Other expenses of issuance and distribution

The following table sets forth the costs and expenses, other than the underwriting discounts and commissions, payable by the registrant in connection with the sale of common stock being registered. All amounts are estimates except for the Securities and Exchange Commission, or SEC, registration fee, the Financial Industry Regulatory Authority ("FINRA") filing fee and the Nasdaq listing fee.

Item	Amount to be paid
SEC registration fee	$ 2,490
FINRA filing fee	$ 3,500
Nasdaq listing fee	*
Printing expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Blue Sky fees and expenses (including legal fees)	*
Transfer agent and registrar fees and expenses	*
Miscellaneous	*
Total	$ *

* To be provided by amendment

Item 14. Indemnification of directors and officers

Section 145 of the Delaware General Corporation Law authorizes a corporation's board of directors to grant, and authorizes a court to award, indemnity to officers, directors, and other corporate agents.

Our third amended and restated certificate of incorporation contains provisions that limit the liability of our directors for monetary damages to the fullest extent permitted by Delaware law. Consequently, our directors will not be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duties as directors, except liability for the following:

- any breach of their duty of loyalty to our company or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the Delaware General Corporation Law; or
- any transaction from which they derived an improper personal benefit.

Any amendment to, or repeal of, these provisions will not eliminate or reduce the effect of these provisions in respect of any act, omission or claim that occurred or arose prior to that amendment or repeal. If the Delaware General Corporation Law is amended to provide for further limitations on the personal liability of directors of corporations, then the personal liability of our directors will be further limited to the greatest extent permitted by the Delaware General Corporation Law.

In addition, our amended and restated bylaws provide that we will indemnify, to the fullest extent permitted by law, any person who is or was a party or is threatened to be made a party to any action, suit or proceeding by reason of the fact that he or she is or was one of our directors or officers or is or was serving at our request as a director or officer of another corporation, partnership, joint venture, trust or other enterprise. Our amended and

restated bylaws provide that we may indemnify to the fullest extent permitted by law any person who is or was a party or is threatened to be made a party to any action, suit or proceeding by reason of the fact that he or she is or was one of our employees or agents or is or was serving at our request as an employee or agent of another corporation, partnership, joint venture, trust or other enterprise. Our amended and restated bylaws also provide that we must advance expenses incurred by or on behalf of a director or officer in advance of the final disposition of any action or proceeding, subject to very limited exceptions.

Further, we have entered into indemnification agreements with each of our directors and executive officers that may be broader than the specific indemnification provisions contained in the Delaware General Corporation Law. These indemnification agreements require us, among other things, to indemnify our directors and executive officers against liabilities that may arise by reason of their status or service. These indemnification agreements also require us to advance all expenses incurred by the directors and executive officers in investigating or defending any such action, suit or proceeding. We believe that these agreements are necessary to attract and retain qualified individuals to serve as directors and executive officers.

The limitation of liability and indemnification provisions that are included in our third amended and restated certificate of incorporation, amended and restated bylaws and in indemnification agreements that we have entered into with our directors and executive officers may discourage stockholders from bringing a lawsuit against our directors and executive officers for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against our directors and executive officers, even though an action, if successful, might benefit us and other stockholders. Further, a stockholder's investment may be harmed to the extent that we pay the costs of settlement and damage awards against directors and executive officers as required by these indemnification provisions. At present, we are not aware of any pending litigation or proceeding involving any person who is or was one of our directors, officers, employees or other agents or is or was serving at our request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, for which indemnification is sought, and we are not aware of any threatened litigation that may result in claims for indemnification.

We have obtained insurance policies under which, subject to the limitations of the policies, coverage is provided to our directors and executive officers against loss arising from claims made by reason of breach of fiduciary duty or other wrongful acts as a director or executive officer, including claims relating to public securities matters, and to us with respect to payments that may be made by us to these directors and executive officers pursuant to our indemnification obligations or otherwise as a matter of law.

In any underwriting agreement we enter into in connection with the sale of common stock being registered hereby, the underwriter will agree to indemnify, under certain conditions, us, our directors, our officers and persons who control us within the meaning of the Securities Act of 1933, as amended, against certain liabilities.

Item 15. Recent sales of unregistered securities

The following sets forth information regarding all unregistered securities sold in the three years preceding this registration statement:

- In June 2015, we issued 424,269 shares of our common stock to Intrexon Corporation, at a per share price of $8.10, for aggregate consideration of approximately $3 million.
- On February 22, 2016, we executed an unsecured convertible debt facility with Intrexon to provide us with up to $10.0 million (the "Convertible Debt"). The debt carried an interest rate of 10%, had a maturity of March 1, 2017, and could be converted into shares of our common stock at a price of 690 U.K. pence per share using the British pound sterling to U.S. dollar exchange rate, as reported on Reuters, as of the business day prior to the conversion. The entire $10.0 million (plus accrued interest) of Convertible Debt was converted into 1,212,908 shares of our common stock on December 16, 2016.

- On January 18, 2017, we issued 2,421,073 shares of our common stock to Intrexon Corporation at a per share price of $10.326, for aggregate consideration of approximately $25.0 million. Following the closing of this sale, Intrexon Corporation distributed 1,776,557 shares of our common stock that it held prior to the closing via a share dividend to its shareholders. On January 19, 2017, our common stock began "regular way" trading on the Nasdaq Capital Market.

Each of the sales of our common stock referenced above was exempt from the registration requirements of the Securities Act pursuant to the exemptions provided by Section 4(a)(2) of the Securities Act and/or Regulation D under the Securities Act. We did not pay or give, directly or indirectly, any commission or other remuneration, including underwriting discounts or commissions, in connection with any of the sales of our common stock referenced above. The recipients of the shares of our common stock in each of these transactions represented their intentions to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were placed upon the stock certificates issued in these transactions. All recipients represented that they had adequate access to information about us. Each of the sales was made without any general solicitation or advertising.

Item 16. Exhibits and financial statement schedules

(a) Exhibits

See the Exhibit Index attached to this Registration Statement, which is incorporated by reference herein.

(b) Financial statement schedules

Schedules not listed above have been omitted because the information required to be set forth therein is not applicable or is shown in the consolidated financial statements or notes thereto.

Item 17. Undertakings

The undersigned Registrant hereby undertakes to provide to the underwriter at the closing specified in the underwriting agreement certificates in such denominations and registered in such names as required by the underwriter to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act, and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer, or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question of whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this Registration Statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this Registration Statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

EXHIBIT INDEX

Exhibit Number	Exhibit Description
1.1**	Form of Underwriting Agreement.
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 Bylaws of AquaBounty Technologies, Inc. (incorporated by reference to Exhibit 3.1 to the Registrant's Registration Current Report on Form 8-K, filed on January 6, 2017).
3.3*	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).
5.1**	Opinion of Goodwin Procter LLP
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*†	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).
10.8*†	Form of Restricted Stock 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).
10.9*	Relationship Agreement, by and between AquaBounty Technologies, Inc. and Intrexon Corporation, dated December 5, 2012 (incorporated by reference to Exhibit 10.7 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016).
10.10*	Exclusive Channel Collaboration Agreement, by and between AquaBounty Technologies, Inc. and Intrexon Corporation, dated February 14, 2013 (incorporated by reference to Exhibit 10.8 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016).

Exhibit Number	Exhibit Description
10.11*	Subscription Agreement, by and between AquaBounty Technologies, Inc. and the investors listed therein, dated February 14, 2013 (incorporated by reference to Exhibit 10.9 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016).
10.12*	Subscription Agreement, by and between AquaBounty Technologies, Inc. and Intrexon Corporation, dated March 5, 2014 (incorporated by reference to Exhibit 10.10 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016).
10.13*	Subscription Agreement, by and between AquaBounty Technologies, Inc. and Intrexon Corporation, dated June 24, 2015 (incorporated by reference to Exhibit 10.11 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016).
10.14*	Promissory Note Purchase Agreement, by and between AquaBounty Technologies, Inc. and Intrexon Corporation, dated February 22, 2016 (incorporated by reference to Exhibit 10.12 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016).
10.15*	Lease and Management Agreement, by and between AquaBounty Panama, S. de R.L. and Luis Lamastus, dated October 1, 2013 (incorporated by reference to Exhibit 10.13 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016).
10.16*	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).
10.17*†	Employment Agreement, by and between Ronald Stotish and AquaBounty Technologies, Inc., dated April 1, 2006 (incorporated by reference to Exhibit 10.15 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016).
10.18*†	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).
10.19*†	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).
10.20*	Collaborative Research Agreement, by and between AQUA Bounty Canada Inc. and Tethys Aquaculture Canada, Inc., dated March 22, 2012 (incorporated by reference to Exhibit 10.18 to the Registrant's Registration Statement on Form 10, filed on November 7, 2016).
10.21*	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).
10.22*	Amended and Restated Lease Agreement, by and between AquaBounty Panama, S. de R.L. and Ligia Gabriela Surgeon de Lamastus, dated May 1, 2016 (incorporated by reference to Exhibit 10.20 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).
21.1*	List of Subsidiaries of AquaBounty Technologies, Inc. (incorporated by reference to Exhibit 21.1 to the Registrant's Annual Report on Form 10-K, filed on March 16, 2017).

Exhibit Number	Exhibit Description
23.1	Consent of Wolf & Company, P.C.
23.1**	Consent of Goodwin Procter LLP (included in Exhibit 5.1)
24.1	Powers of attorney (included on the signature page to this Registration Statement)

* Incorporated herein by reference as indicated.
† Management contract or compensatory plan or arrangement.
** To be filed by amendment.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of Maynard, Commonwealth of Massachusetts, on the 8th day of November, 2017.

AQUABOUNTY TECHNOLOGIES, INC.

By: /s/ Ronald L. Stotish
Ronald L. Stotish
Chief Executive Officer, President, and Director

SIGNATURES AND POWER OF ATTORNEY

We, the undersigned directors and officers of AquaBounty Technologies, Inc. (the "Company"), hereby severally constitute and appoint Ronald L. Stotish and David A. Frank and each of them singly, our true and lawful attorneys-in-fact, with full power to them, and to each of them singly, to sign for us and in our names in the capacities indicated below, the registration statement on Form S-1 filed herewith, and any and all pre-effective and post-effective amendments to said registration statement, and any registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, in connection with the registration under the Securities Act of 1933, as amended, of equity securities of the Company, and to file or cause to be filed the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as each of us might or could do in person, and hereby ratifying and confirming all that said attorneys, and each of them, or their substitute or substitutes, shall do or cause to be done by virtue of this Power of Attorney.

Pursuant to the requirements of the Securities Act, this Registration Statement on Form S-1 has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Ronald L. Stotish Ronald L. Stotish	President, Chief Executive Officer and Director (Principal Executive Officer)	November 8, 2017
/s/ David A. Frank David A. Frank	Chief Financial Officer and Treasurer (Principal Financial Officer and Principal Accounting Officer)	November 8, 2017
/s/ Richard J. Clothier Richard J. Clothier	Chairman of the Board, Director	November 8, 2017
/s/ Jack A. Bobo Jack A. Bobo	Director	November 8, 2017
/s/ Richard L. Huber Richard L. Huber	Director	November 8, 2017

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Signature	Title	Date
/s/ Christine St.Clare Christine St.Clare	Director	November 8, 2017
/s/ Rick Sterling Rick Sterling	Director	November 8, 2017
/s/ James C. Turk James C. Turk	Director	November 8, 2017

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the use in this Registration Statement on Form S-1 of AquaBounty Technologies, Inc. of our report dated March 16, 2017, relating to our audit of the consolidated financial statements, appearing in the Prospectus, which is a part of such Registration Statement.

We also consent to the reference to our firm under the caption "Experts" in such Prospectus.

/s/ Wolf & Company, P.C.

Boston, Massachusetts
November 8, 2017