

Fish to Dish Industry Internship and Education Program



2018 Intern Showcase

Justin Chon

Intern Biography

I'm from sunny Los Angeles but have been living in Upstate NY since my freshman year at Cornell. I graduated with a Biological Sciences major in hopes of sustaining our country's seafood through aquaculture. By working with industry professionals and seafood specialists this summer, I had the opportunity to take a closer look into the industry and explore potential ways on improving it.

What it's like working at Hudson Valley Fish Farms (HVFF)

When I first walked onto the production floor, my first thought was "where does it end?" I was in awe standing amidst the highly elaborate and large scale operation. But with operations of this magnitude, proper and daily care is necessary to sustain healthy fish. Fortunately, the farm was well-staffed with experienced technicians, maintenance crew, and managers, who I've had the opportunity to learn from and work with. Everyone shared a contagious passion for the well-being of the fish, and I instantly felt welcomed and a part of the close-knit team. We all played different roles but worked harmoniously to maintain and operate the 80,000 ft² facility. At the end of the day, I felt a sense of pride working with such a dedicated team, leading the seafood industry to a more sustainable future.

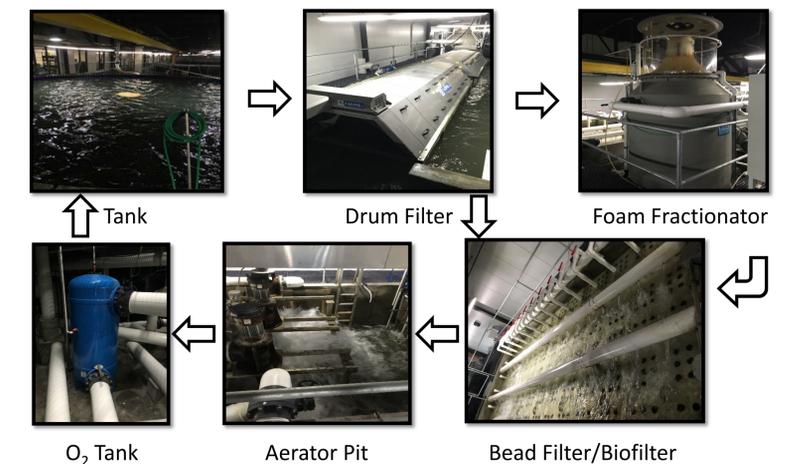
What I learned

I was exposed to all facets of the business, including production, harvest, regulations, sales, and distribution. Everything had to be meticulously planned to run the interconnected and dynamic operation. However, even if the operation runs smoothly and the farm yields a healthy mass of fish, it still needs to attract consumers. Perhaps the three biggest concerns people have with farmed salmon are the accumulation of contaminants, the use of hormones and synthetic chemicals, and the environmental impacts of traditional, open-water salmon farming. These concerns do not, however, apply to HVFF. No hormones or antibiotics are used, and by rearing salmon in a bio secure, closed system—recirculating almost 100% of the water—the environment and wild populations are not affected. In our country, a stigma of eating farmed salmon persists, even with farms like HVFF. In order to supply an ever growing population with a relatively inexpensive and accessible protein source, we should consider farmed salmon to balance our diet.



Hudson Valley Fish Farms

What is RAS?



Industry Partner:

Hudson Valley Fish Farms (HVFF) is a large-scale recirculating aquaculture system (RAS) producing Steelhead, a salmon species rich in protein and Omega 3's. Located in the small town of Hudson, the farm is just three hours away from Boston and New York, facilitating the delivery of fresh fish to major seafood hubs. Their nursery is Best Aquaculture Practices (BAP) certified and they are working on getting a 4 star BAP certification. HVFF is the largest indoor egg to plate recirculating system in North America. The already massive farm is continuing to expand with a shrimp operation and greenhouse project, utilizing the CO₂ produced by the ~250,000 Steelhead in the farm.



Filleting and trimming steelhead for taste testing

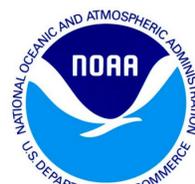
How can you support local producers like Hudson Valley Fish Farms

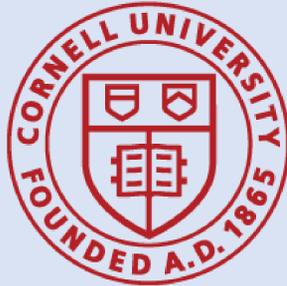
Currently, the US imports about 90% of its seafood, half of which is farmed in countries with less stringent food safety regulations. The vast trade deficit is weakening our economy and providing fewer jobs, as domestic companies can no longer compete with imported prices. However, by shopping at farmers markets, eating at farm-to-table restaurants, and patronizing local grocery stores, we can help restore some of this disparity. Buying locally, not only recirculates the money in your community, but also reduces the number of "fish miles" that it takes for the product to reach consumers, leaving a smaller carbon footprint on the earth and increasing the potential for fresh seafood. If you care about your local community, I would suggest the next time you go grocery shopping, look for local brands or request them, if you don't see any. Also, don't be discouraged to try new and less popular products. You never know what delectable flavors can be hiding in these products. If you enjoyed your meal, share that with friends or post on social media. Consumer habits more conscious of the local impacts will have a rippling effect on the economy and food security in our nation as a whole.

The Team:



Directed by:
Michael Ciaramella, MSc, PhD
NY Sea Grant Seafood Specialist
Stephen Frattini, DVM
Owner and President, CFAARM





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2018 Intern Showcase

Matthew Pluschau

Intern Biography

I grew up in Shoreham, Long Island and graduated from Shoreham-Wading River High school. I now attend Virginia Polytechnic Institute and State University and am pursuing a B.S. in Biological Sciences with a minor in Sustainable Natural Environments. I hope to enter a career in the field of wildlife conservation.



Industry Partner: Great Atlantic Shellfish Farms

Great Atlantic Shellfish Farm is a shellfish farm and hatchery located in East Islip on Long Island. The facility deals with the growth and production of oysters and clams, and sells to other local farmers, as well as organizations working on shellfish restoration projects in the surrounding areas.



What's it like working at Great Atlantic Shellfish Farm

Everyday there are two main tasks that must be done to ensure the farm operates successfully. The first is to clean and hose off the oysters. They must be cleaned daily because they are filter feeders, and if they are covered in mud and sand, filtering becomes difficult and they may not be able to get the nutrients they need to grow quickly and efficiently.

The second daily task is to feed the larvae. Depending on the size and stage of their life cycle, they are fed one of four types of algae. The type of algae is important, because some of the algal species are too big for the larvae to eat, so they need to be assigned the appropriate strain or type of algae to ensure they grow quickly and efficiently.

What I learned

During my time with the Great Atlantic Shellfish Farm I learned many things about the biology, science, and mechanics of farming shellfish, including:

- the life cycle of oysters and clams from egg to adult;
- all aspects of the proper environment/habitat needed for oysters and clams to grow and survive;
- details of the commercial trade for shellfish in NY;
- how to culture algae to feed the shellfish and ensure quick and efficient growth;
- the mechanics behind maintaining a full scale hatchery;
- and all the work that goes into successfully running a shellfish farm.

How can you support local producers like Great Atlantic Shellfish Farm

The best way to support local producers like Great Atlantic Shellfish farms is to buy and shop for locally grown, farmed, or sourced seafood. When dining out ask where the seafood on the menu came from. You can also ask your local fish monger/retailer what's local and in season to ensure you are supporting local businesses and contributing more fully to the Long Island economy. It is also important to take the time to enhance your knowledge and understanding of local seafood production and practices, and the many benefits they can offer our coastal communities.



Algae tanks at the hatchery in Islip

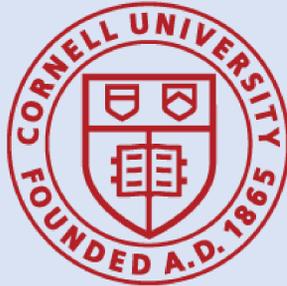


Nursery tanks for juvenile shellfish



Harvest vessel for hauling, sorting and bagging shellfish on the water





Fish to Dish Industry Internship and Education Program



2018 Intern Showcase

Matthew Tobin

Intern Biography



I was born in Miami, FL, but my family moved to Westhampton, NY in 2010 where I attended Westhampton Beach High School and graduated in 2016. I am currently entering my 3rd year at Cornell University, majoring in Agricultural Sciences in the College of Arts and Sciences (CALs) and aspiring to double major in Environmental and Sustainability Sciences as well. For as long as I can remember, I've been happiest when doing anything outdoors, especially if it involves the ocean.

Industry Partner: Manna Fish Farms, Inc.

Manna Fish Farms, Inc. was founded by Donna Lanzetta, CEO, who was born and raised in the Town of Southampton. Utilizing a first-rate team ranging from aquatic veterinarians and engineers to operational and educational experts, Manna Fish Farms is on course to be the first open ocean finfish farm in Federal waters off the East Coast of the United States. In addition to using world proven submersible cage and automated feed technologies to grow local, wild species finfish, we are researching Integrated Multi-trophic Aquaculture (IMTA) using Sea Scallop (shellfish) and Kelp (microalgae). The proposed site is located off the South Shore of Eastern Long Island, NY in the United States Exclusive Economic Zone (EEZ) (8) nautical miles offshore.



Working at Manna

Rather than focusing on the production of fish alone, Donna Lanzetta and Manna Fish Farms (MFF) are passionate about community outreach and education on both a local and national scale. This immediately prompted the creation of their non-profit, the **Manna Ocean Foundation (MOF)**. Recently acquired as a base of operations, 22 Inlet Road in Southampton, NY will serve as both a production facility and an educational hub for schools/ students, community members and anyone passionate about discovering more regarding aquaculture in the local area. I currently am one of two interns for Manna and, aside from furthering my knowledge of the industry through daily research, I aid in the applications of Grants for both MOF and MFF. We are currently involved in a genetic study to guarantee matches between our fingerling population to wild stock through testing of DNA in Fin Clippings sourced from locally caught Striped Bass. Additionally, I am assisting in the development of an Organic Standard for seafood in the United States as none have yet to be created. The opportunity to work with Donna on a daily basis allows me to learn more, though personal interaction and experience, about the necessary permitting and operations of the company then I could have ever imagined.

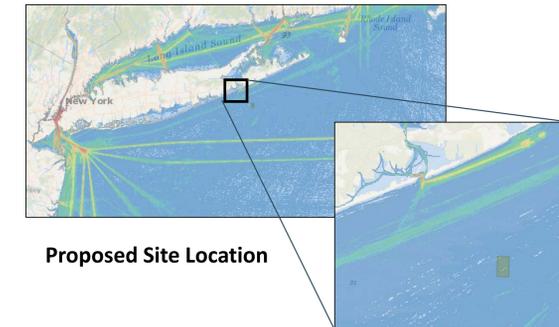
What I learned

The best part about working at Manna and with the "Fish to Dish" internship program is that every day is a new learning experience. The United States currently imports **92%** of domestically consumed seafood, resulting in the second largest trade deficit in the United States at an astounding **\$14,000,000,000⁽¹⁾**. In addition, wild stock of many species are rapidly declining. Overfishing is more prevalent than ever and at the current rate, the wild populations and terrestrial proteins will not sustain the world at an environmentally conscious manor. Despite having the largest Exclusive Economic Zone (EEZ) and according to the USDA, "the largest potential for offshore aquaculture," the United States is 16th globally in aquaculture production. While I have gained so much knowledge and insight into the industry as an aggregate, there is still so much for me to discover as breakthroughs and developments occur nearly every day. Utilizing what I have learned this summer, I hope to share with all I meet bring at least our community one step closer to a sustainable future utilizing aquaculture.

⁽¹⁾ NOAA NMFS Fisheries of the United States 2016

How can you support local producers like Manna Fish Farms, Inc.

The best way to support Manna and our message is by always trying to ascertain the best idea of where your seafood is coming from, and if possible, eat locally available seafoods. "Locally available" meaning more than the commonly consumed; Long Island alone has a handful of underutilized species that provide fresh and delicious sources of protein and are seldom consumed. This, in turn, will ease the burden placed on wild populations and mitigate the damages of overfishing, all while keeping local seafood consumed locally. Additionally, by attending any community outreach events or educational programs offered, our Local area will hopefully have both an elevated sense of awareness and interest in sustainable aquaculture.



Proposed Site Location



Aquapods (above) and Sea Stations (below) will be used in our Mariculture production.



Automated Feed Buoy powered by Solar and diesel back-up generator holds up to 20 tons of feed.



Donna Lanzetta, CEO, at the United Nations STI Conference

Manna Fish Farms, Inc. plans to farm kelp in addition to finfish.



Global Aquaculture Alliance Statistics⁽²⁾



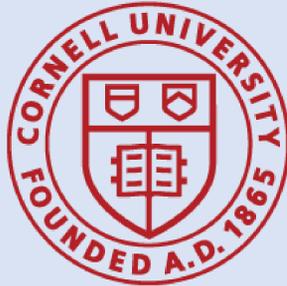
⁽²⁾ www.aquaculturealliance.org



The internship and education program was funded through the NOAA Sea Grant 2017 Aquaculture Initiative: Impediments to Aquaculture Opportunities. Grant project number NA17OAR4170234

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2018 Intern Showcase

Nathaniel Eddy

NC State Bio and Ag Engineering 2019



I was raised in Fayetteville, NC and I currently attend North Carolina State University. I'm majoring in Biological and Agricultural Engineering with concentrations in both Agricultural and Environmental Engineering. I chose the NY Sea Grant Fish to Dish Internship because I wanted first hand experience in the seafood industry. I hope to work as an engineer in Aquaculture after I graduate so getting a look at the seafood industry up close has been very valuable to me.

Acme Smoked Fish:

Acme is a fourth generation family run fish smoking company. Headquartered in Brooklyn, NY. Acme has several locations producing, processing, and distributing high quality smoked fish products. These facilities range all the way from Chile to New York, and include one in Florida as well as one in my home state of North Carolina. With over 100 years of industry experience, Acme leads the smoked fish industry in variety and quality of products. With three retail brands (Acme, Blue Hill Bay, and Ruby Bay) as well as several boutique brands that Acme caters to, its likely that you have enjoyed Acme products before.



What's it like working at Acme Smoked Fish

One of the first things that I noticed while working at Acme is how friendly and inclusive the company is. The staff is extremely diverse with people representing at least four different countries in my office alone. Teamwork is also a major part of working at Acme. I coordinated with several departments when working on my projects and without the help of Quality Control, IT, Marketing, and Supply Chain Management I would not have been able to effectively meet any of my goals. Training and mentorship were both key elements of joining the team at Acme. I was provided with ample resources to learn how to fill my role and if I ever had any questions there were a variety of people I could go to for help at any time. Acme is a growing company, which means that they are constantly learning and developing so that they can meet their expanding needs. My position at the company reflected this as I was brought in to help create a new standardized system for designing and printing labels. Even with all of the fast paced development that is currently taking place, Acme still prioritizes its values like community. This is obvious from the way that the employees are treated as well as from community events like the weekly Fish Friday.

What I learned

Working at Acme allowed me to learn about each step of smoked fish processing. I was able to see the whole progression first hand from brining to packaging and everything in between. While my main role at Acme was label design and database management, I also had opportunities to assist in Quality Control inspections as well as product testing. I completed certification courses involving topics like Bio-Security and Food Safety, and I was even taught how to fillet Sturgeon. Beyond my work at Acme, the Fish to Dish internship has provided me with opportunities to learn about seafood production as a whole. With trips to visit fish farms, shellfish hatcheries, fishing boats, and fish vet clinics I have gotten a sense for the current state of the seafood industry and where it is going. I am confident that my experience has equipped me to contribute my skills to the development of the seafood industry as a whole.

How can you support local producers like Acme?

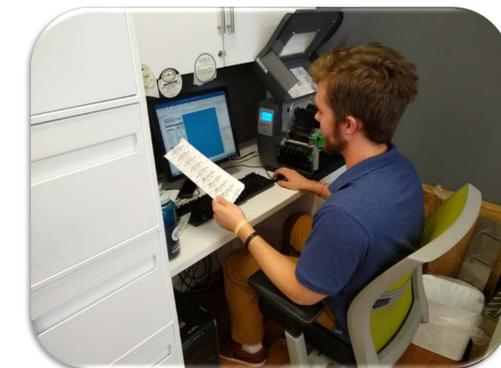
One of the best ways that you can support local producers is by learning about what they do. An easy way to do this is to attend community events like Fish Friday. Fish Friday is an event that Acme does every Friday at their Brooklyn location where they open up a portion of the factory and sell their products directly to consumers at a discounted price. By going there you not only get a great deal, but you also get access to the knowledge and expertise of the employees working there. You can also support Acme by looking for their products in the store when you are shopping. When buying Acme products you know that you are not only supporting quality food that was sustainably sourced, but you are also supporting a company that values its employees and customers.



Loading whitefish into the Hot Smoker

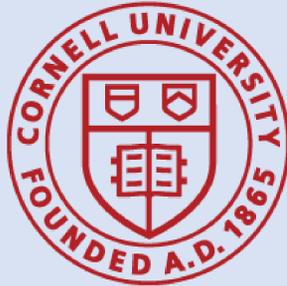


Packing Acme's Smoked Salmon



Working on Acme's new labels





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2018 Intern Showcase

SARAH BURKE



Intern Biography

My name is Sarah Burke and I am the summer intern for Haskell's Seafood. I have always lived on Long Island and have enjoyed the opportunity to explore the local seafood industry. I am now entering my senior year at Penn State, majoring in Biological Engineering with a focus in Food and Bio Processing. I hope to pursue a career in food science and sustainability upon my graduation in May.

Industry Partner: Haskell's Seafood

Haskell's Seafood is a seafood processor located in eastern Long Island. Haskell's is owned by Peter Haskell, a captain with a lifetime of experience in catching and handling seafood. Haskell's uses fresh ingredients and local, sustainable catch in small batches to create high quality products for customers across the United States.



What's it like working at Haskell's Seafood?

Every day at Haskell's Seafood is unique. Peter has fostered relationships with local captains to ensure we are working with fresh, quality seafood during each processing session. Local seafood is brought under ice and transported to the facility immediately. Seafood is trimmed and prepared in the facility in small batches, and all other ingredients are prepared daily as well. From chopping fresh herbs to juicing lemons, each batch of product is made entirely from scratch. This dedication to detail is what sets Haskell's apart from others, and makes a connection between the moment a fish is caught to when it hits a customer's table.

What I learned...

Working with Haskell's Seafood has taught me so much about sustainability. The future of seafood is dependent on the industry's ability to integrate across sectors from aquaculture farms to commercial fisherman and work towards preserving our environment. Haskell's is committed to sustainability and prides itself on being a virtually waste-free business. We work with underutilized species such as porgy and dogfish to lessen our impact on local waters, and donate shells to programs like the Shinnecock Bay Restoration Program to rebuild habitat along our shores. I have learned that these practices not only enhance product quality, but are what will sustain the industry for years to come.

How can you support local producers like Haskell's Seafood?

Haskell's Seafood is available to the public via their website at www.haskellsseafood.com and can be shipped anywhere in the United States. Additionally, locals can enroll in the Community Supported Fishery (CSF) program for the summer months to receive seafood products on a weekly basis, visit the Milk Pail fresh market located in Watermill, or stop by the Long Island Welcome Center in Dix Hills. Purchasing from Haskell's Seafood not only supports our business, but also supports the local captains and agricultural markets that make our business possible.



Fishing in Great South Bay.



Filleting Tuna at Haskell's Seafood in Calverton, NY.



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