

Farmer Knowledge Exchange Program: Salty Lady Seafood

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Through support from the grant program, we traveled to Homer, Alaska to spend time working alongside two of the state's most experienced oyster growers: Jackaloff Bay Oyster Farm and Alaskan Shellfish Farms. The purpose of this trip was to gain hands-on experience in commercial oyster husbandry, harvesting, processing, equipment utilization, and farm management practices that are difficult to learn remotely. While both operations have provided invaluable mentorship over the years through phone calls and troubleshooting discussions, working alongside their crews provided an opportunity to observe the small details, workflows, and decision-making processes that cannot be effectively communicated from a distance.

The visit successfully met the objectives outlined in our proposal by providing practical experience in oyster husbandry, processing, equipment operation, biofouling management, harvest logistics, and post-harvest handling. We returned with numerous ideas that will directly improve our own farm operations and enhance the training we provide to interns and students.

At Jackaloff Bay Oyster Farm, we spent time in both the field and processing plant learning how a well-established commercial oyster farm manages harvest, grading, and sales. One of the most valuable lessons was learning to operate their specialized oyster sorting equipment used in the processing facility. Seeing the grading and sorting process firsthand demonstrated how mechanized sorting improves efficiency, consistency, and labor utilization compared to manual methods. Understanding how different size classes are separated and prepared for market will help us evaluate future equipment investments as our farm continues to grow.

We also gained valuable insight into their pricing structure and marketing strategy. Jackaloff Bay Oyster Farm shared how wholesale and retail pricing differs across each oyster size category and discussed how larger oysters command significantly higher prices. One particularly interesting aspect of their production strategy is that oysters are marketed based entirely on the year the seed was received rather than individual oyster size. During our visit they were completing sales of their 2022 seed cohort while beginning to market oysters from their 2023 seed.

This production strategy extends beyond marketing and into inventory management. Harvests are conducted exclusively from the designated year-class currently being sold. Even if oysters from a younger seed year have already reached market size, they remain in the water until it is their turn to be harvested. Likewise, if oysters harvested from the active cohort have not yet reached acceptable market quality, they are not returned to the farm for additional grow-out. Instead, they are diverted to shucked product or discarded. Although this initially seemed counterintuitive, we learned that this disciplined inventory management simplifies traceability, inventory control, and marketing while allowing some oysters to remain in the water long enough to reach premium larger sizes that generate substantially greater value.

Another important lesson involved shell quality and routine husbandry. We observed the importance of regularly air drying oyster gear throughout the growing season. Monthly air drying significantly improves shell strength and appearance while reducing the development of chalky, brittle shells. This reinforced the importance of maintaining consistent husbandry schedules not only for controlling fouling organisms but also for producing a higher quality final product.

While at Jackaloff Bay we also learned how to perform in-house "psp testing" using their specialized equipment. We followed along through each step of lab processing for PSP, DSP, and ASP indications. This quality control procedure allows growers to evaluate oyster condition and ensure product quality before shipment. Observing this process firsthand provided valuable knowledge about post-harvest quality assurance practices that can improve customer satisfaction and product consistency.

Our visit to Alaskan Shellfish Farms offered a different perspective by demonstrating the systems required to operate one of Alaska's largest shellfish farms. The scale of their operation highlighted how thoughtful equipment design and standardized procedures improve efficiency while maintaining product quality.

One of the most valuable husbandry lessons involved biofouling management. Rather than pressure washing all fouling organisms from their culture gear, they intentionally leave a thin layer of residual growth. This surface acts as an ablative layer that discourages new barnacle and mussel larvae from attaching as readily as freshly cleaned gear. This approach reduces maintenance demands while taking advantage of natural biological processes, and it challenged our previous assumptions about keeping gear completely clean. We intend to evaluate this technique on our own farm to determine whether it can reduce labor requirements and fouling pressure.

We also spent considerable time learning how they construct, deploy, and maintain their oyster growing stacks. Observing these systems in operation provided numerous ideas for improving the efficiency and durability of our own gear configurations while reducing labor during deployment and maintenance.

A full day was spent at their FLUPSY (Floating Upweller System), where we learned early nursery techniques for juvenile oysters. We observed how they routinely stir seed oysters within nursery bins using an oar to prevent clumping and encourage uniform growth. We also learned how they efficiently size juvenile oysters using a vibrating screening machine equipped with multiple mesh sizes. Seeing this equipment in operation clarified nursery management techniques that are difficult to appreciate without observing the process in person. Further, we gained valuable insight into the importance of oyster size when transferring juveniles from the FLUPSY to farm. Waiting for oysters to reach at least one inch before they move is something we will be implementing into our own operations.

We also toured their processing facility and followed the complete post-harvest workflow from harvest through shipping. The tour included learning how shipping boxes are assembled, how gel ice is prepared and incorporated into shipments, packing procedures, and methods

used to maintain product quality during transportation. Understanding these standardized processing workflows will help us improve our own harvest and shipping procedures as production increases.

An additional highlight was touring their wet storage system. Rather than relying solely on refrigeration, Alaskan Shellfish Farms utilizes wet storage tanks to temporarily hold harvested oysters under controlled conditions while maintaining product quality. Learning how wet storage integrates into their processing and shipping schedule provided insight into alternative methods for managing inventory and preparing orders for market.

Overall, this educational trip fulfilled the goals established in our grant proposal by providing practical, hands-on training in oyster husbandry, processing, equipment operation, harvest logistics, and farm management. Many of the techniques we observed involve subtle details of timing, handling, equipment setup, and workflow that simply cannot be learned through phone conversations or written descriptions. Working directly alongside experienced growers allowed us to ask questions in real time, receive immediate feedback, and understand the reasoning behind management decisions.

The knowledge gained during this trip will be directly incorporated into our own operation in Juneau. We plan to implement improved husbandry practices, including more consistent air-drying schedules, evaluate modified biofouling management strategies, improve processing workflows, and continue assessing equipment investments that increase efficiency as our farm expands. The lessons learned will also become part of the training curriculum for the university students and seasonal interns who work on our farm each year. By incorporating these proven practices into our standard operating procedures, we can provide future growers with practical, field-tested skills that strengthen Alaska's mariculture industry.

Finally, we intend to continue sharing what we learned with other growers through regional shellfish meetings, workshops, and ongoing collaboration with the Alaska shellfish farming community. The relationships strengthened during this visit will continue to provide opportunities for knowledge exchange and collaborative problem solving. The grant made possible an experience that will improve our farm's efficiency, product quality, and educational capacity while contributing to the continued growth and resilience of Alaska's oyster farming industry.