3. OPERATIONS

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a. Production Activities

1. List and describe your proposed activities.

List and describe your proposed activities including the number and type of vessels that will service the proposed site, frequency and duration of vessel traffic, feed schedule, feed techniques, monitoring schedule, transport schedule, predator control methods, net cleaning and maintenance (methods, frequency and location), antibiotic usage, harvest schedule, harvest technique and processing methods.

This section describes the operations that will take place on the proposed lease site FB02, off of Bald Rock. The ramp-up plan and full operation is based upon envisioning the coordination of operations with a second lease area. Contingent upon the approval of the lease site, American Aquafarms will also undertake development of the Maine Fair Trade Lobster (MFTL) property in Prospect Harbor to construct a hatchery, waste/biproduct plant and processing facility and other support facilities. Operational ramp up will commence at approximately 3-6 months after receiving the lease approval. The ramp-up will then take 32 weeks, gradually deploying pens to achieve an even weekly production. Harvesting is expected to commence approximately 17 months after initial deployment of fish in the sea. For details see the ramp-up plan, and Gantt-diagram in the Appendix. In Addition, American Aquafarms has developed a detailed Operations Manual that will govern the logistics and operations of the lease site.

For more detail see Appendix:

American Aquafarms – Operations Appendix 2 – Operations Manual Index
1.1. Number & Type of Vessels:

*MAR FORTUNE*

- **IMO:** 9267273
- **MMSI:** 257011630
- **Call Sign:** LEZI
- **Summer DWT:** 331 t
- **Length Overall x Breadth:** 44.35 x 10.97 m
- **Gross Tonnage:** 499
- **Year Built:** 2002
- **Draught:** 3.3 m

One primary service vessel (Mar Fortune) will be used at the site. The vessel will be used for fish transfer and harvest as well as feed and fuel delivery. The service vessel can also resupply oxygen and transport waste off-site when use of smaller service vessel capacity is insufficient.

For more detail see Appendix:

American Aquafarms – Operations Appendix 3 – Mar Fortune

American Aquafarms – Operations Appendix 7 – CMS Plan for Mar fortune
50’ service vessel

One smaller service vessel will be used for maintenance operations, equipment, oxygen, waste and crew transportation. (Illustration not actual vessel)

For more detail see Appendix:

American Aquafarms – Operations Appendix 4 – GA 1 1508 service cat
American Aquafarms – Operations Appendix 4 – GA 0 1512 service cat

1.2. Frequency & Duration of Vessel Traffic:

Activity plan at full capacity production:

Frequency and duration of vessel traffic will vary. An overall timeline has been estimated from best knowledge and is summarized in the table below. Some operations are overlapping and can be performed simultaneously, reducing the frequency of vessels at the site.

Examples of possible overlapping operations are delivery of fuel, water and feed, returning with waste/biproduct, delivery and collection of oxygen with crew shift change, waste/biproduct removal.

To ensure a year-round steady supply of fish to the processing facility, the harvesting schedule at the site will vary. Operations planning, including harvesting and feeding, is dependent on seasonal factors that affect the growth cycles of the fish. This means that operations schedules will vary according to
specific requirements depending on variables in temperature, light etc. On average, the harvesting vessel will be at the site three times per week, but may be at the site 6 days a week depending on harvesting cycles. Harvesting duration on site is expected to be within 3 hours, and harvesting will not be done elsewhere on the same day.

The intended on-shore base is the Maine Fair Trade Lobster Facility at Prospect Harbor. Transport time for the larger service vessel is about 1.7 hours. For the smaller service vessels transport time is approximately 1.4 hours. Estimation of frequency and duration for the larger service vessel on the site is on average every other day for up to 5 hours, whereas the smaller service vessel will have varying frequency and duration depending on specific tasks. Weather related factors may also change the frequency and/or duration of vessel traffic. Neither vessel will be moored on the site beyond required operational use. American Aquafarms is considering an additional onshore base located in closer proximity to Frenchmen Bay to facilitate logistical operations. Pending further development, a decision to develop a second land base will impact both duration and frequency of vessel traffic at the site. No regular operations on Sundays are planned.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Vessel type</th>
<th>Duration on site</th>
<th>Repetition</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed to site</td>
<td>Mar Fortune</td>
<td>Up to 2 hours</td>
<td>Every 3rd day</td>
<td></td>
</tr>
<tr>
<td>Personnel</td>
<td>50’ service vessel</td>
<td>10 minutes</td>
<td>Every weekday</td>
<td>Combined with other tasks *</td>
</tr>
<tr>
<td>Harvesting</td>
<td>Mar Fortune</td>
<td>Up to 3 hours</td>
<td>Weekdays</td>
<td>On average 3 times per week, ranging from 0-6 times per week.</td>
</tr>
<tr>
<td>Fuel and fresh water</td>
<td>Mar Fortune</td>
<td>Up to 2 hours</td>
<td>Every 7-10th day</td>
<td></td>
</tr>
<tr>
<td>Waste/biproduct from site</td>
<td>50’ service vessel</td>
<td>Up to 1 hour</td>
<td>Every 3rd day</td>
<td>Will primarily be handled by Mar Fortune, but will also be handled by 50’ vessel as needed.*</td>
</tr>
<tr>
<td>Oxygen transport</td>
<td>Mar Fortune 50’</td>
<td>Up to 1 hour</td>
<td>Every 3rd day</td>
<td></td>
</tr>
<tr>
<td>Cleaning/inspection robot operation (outside)</td>
<td>50’ service vessel</td>
<td>Up to 8 hours</td>
<td>1-2 times per 2. week Cycle depending on seasonal marine growth.</td>
<td></td>
</tr>
</tbody>
</table>
1.3. Feed Schedule:

Fish will be fed 2-3 times per hour per pen on average. The daily dose will depend on stocking density and environmental conditions such as temperature and light. Daily feed use per site will vary depending on the size of the fish and time of year. The feed schedule is based on extensive research and experience with farming of Atlantic salmon in Norway to achieve optimal fish health and growth and to limit waste. By implementing a steady rate of feed delivery in a closed pen system the fish will utilize up to 97% of the feed. This reduces excess feeding to approximately 3%. Comparative numbers of excess feed in traditional net pens are 15-25% The excess feed is collected and removed from the pens by being pumped to the feed/process barge together with the waste/by-product.

1.4. Feed Techniques:

The feed pellets will be distributed from a central feed storage located on the feed/process barge by an automated centralized feed distribution system. The feed is distributed to each pen by means of PE tubes and disbursed into each pen. American Aquafarms will use industry leading feed from some of the world’s leading suppliers. The feed ingredients are made from a range of natural raw materials sourced from agricultural crops, fisheries and byproducts from human food processing. Ingredients from by-products from human processing chain (20%) would otherwise have been wasted if not used in the fish feed industry. This represents an efficient use of natural resources and supports the development of a circular economy. The feed will contain no antibiotics, no palm oil and no ingredients made from genetically modified organisms. All raw materials are sourced from responsible suppliers meeting high standards of social and environmental responsibility.

1.5. Monitoring Schedule:

The feed dose will be regulated according to feeding behavior of the fish (on camera monitor) and level of uneaten feed pellets measured in the waste collection pipe. The feeding operation will be monitored both from the farm site by staff through hand feeding and from the remote operated control room (24/7) at the land facility. Feeding is one of the most important aspects of achieving optimal fish health and growth for the fish. Multiple cameras and sensors will continuously monitor the fish. The monitoring and logging of data will be controlled by a state-of-the-art control room located at the land base at Prospect Harbor. The control room will monitor, catalogue, and optimize all relevant variables including feed, temperature, oxygen, PH, fish health, mortality and stocking densities as well as net and polymer sack integrity. Control room operators will work in collaboration with on-site crew to optimize operations with regards to rearing the fish. Communication between site and on-shore control room is planned via 4g network and/or dedicated radio link. Control room is also responsible for continuous monitoring and contingency or emergency response.
For more detail see Appendix:

American Aquafarms – Illustration Appendix : Control and Monitoring

1.6. Transport Schedule:

As noted above, service vessels will be traveling from Prospect Harbor to the lease site in accordance with the activity schedule in the table. Transport time for the larger service vessel is about 1.7 hours. Transportation routes for the smaller service vessels will be 1.4 hour from the main land base at Prospect Harbor. American Aquafarms is considering a possible additional land-side location in closer proximity to Frenchman Bay for the smaller support vessels, to facilitate logistical operations. Pending further development of a decision to develop a second land base, potential transportation times to site could be less than 30 minutes. This has the potential to improve operational efficiency and to reduce impact from duration and frequency of vessel traffic connected to the site.
For more detail see Appendix:

American Aquafarms – Illustration Appendix : Vessel use and logistics route

1.7. Predator Control Methods:

Bird nets will be installed over all cages. The condition of the nets will be inspected daily and serviced if necessary. The nets will be transported to shore between inputs for cleaning and servicing.

The double barrier design of the pens combined with the height and robustness of the aluminum collar ensures very high levels of protection from predators. Based on available data regarding predators in Frenchman Bay and Norway, further predator control methods are not deemed necessary. Further measures may however be implemented if required.
For more details see Appendix:

American Aquafarms – Illustration Appendix: Closed pen systems

1.8. Net Cleaning & Maintenance Methods, Frequency & Location:

Outside cleaning and monitoring of pens, moorings, walkways and barge will be performed periodically by a remote operated ROV unit with multiple cameras and sensors. Frequency will vary according to potential for accumulation of growth of organics and microbiota, but will be planned to minimize all build-up potential. Maintenance will be performed by regular staff on site in combination with the smaller service vessels on demand.

Inside cleaning and monitoring of the pens will be performed by robotics. The operation will be continuous 24 hours a day and is designed to minimize stressing the fish as well as preventing the growth of organics and microbiota.

For further details see appendix:

American Aquafarms – Illustration Appendix: Cleaning and maintenance
American Aquafarms – Operations Appendix 5 – Aquarobotics_AR-S-1000025
American Aquafarms – Operations Appendix 6 - Ocein Cleaning System
1.9. Antibiotic Usage:

The is no planned use of antibiotics. Fish farming in closed cages has shown to reduce pathogen infections significantly. However, if necessary, FDA-approved salmon antibiotics will be used. Prophylactic use of antibiotics will not be performed. All fish are vaccinated against the most common diseases and pathogens during the freshwater stage. This drastically reduces the risk of later disease and need for antibiotics. By using closed pen technology, each pen is separated from neighboring pens and there is no direct surface contact between pens in the water column. Each pen is a separate system with its own separate bio habitat. This reduces the risk of spreading disease of pathogens within the site. The pens collect the water from depths (20-40meters down) avoiding the zone where pathogens and parasites typically are found and by controlling variables such as temperature and oxygen levels within the pen the farmer can create an optimal environment for fish health and resilience to diseases and parasites.

1.10. Harvest Schedule:

Operations of stocking fish in the sea will commence at FB02 in a single pen. During the first 32 weeks the site will be developed up to 8 pens. From the first week of having fish in the sea, it will be 17 months before first harvest. From first harvest it will be 1-2 months before reaching estimated full scale harvest schedule. Harvest will be coordinated between FB02 and an envisioned second site to achieve optimal delivery to land base at MFTL site. Weekly harvest at full scale (from FB02) will be approximately 250 Metric Tons (head-on-gutted), and is achieved by harvesting from pens holding fish in the 5-6.5 kg size class. The harvest schedule plans for year-round activity. The harvest activities will be during weekdays, unless weather or other conditions dictate otherwise. Number of harvests will average 2-3 times per week, and duration of the harvesting operation will be approximately 3 hours.

1.11. Processing Methods:

Harvesting will be performed by a “stun and bleed operation” contained in the larger service vessel. This is an automated system where the harvest vessel is moored on the edge of the pen before the fish is pumped via a special fiber armed rubber hose into a tray in a contained system below deck. The fish is first stunned then bled on a conveyor belt before dropped into special tanks with refrigerated seawater. The stun and bleed process minimizes unnecessary handling of the fish and contributes to a superior end-product by increasing fish welfare as well as reducing mortality. The system maintains the quality and shelf life of the fish by fast chilling and good circulation. The whole operation in controlled and monitored by a control station located on the vessel as well as visual inspection by the loading manager and every step is logged and documented. The process vessel loads, transport and delivers the fish to the processing plant in a 100% closed environment, and all the water used for transport is delivered onshore for purification. This ensures bio security and no risk of spreading disease.
For more details see Appendix:

American Aqua Farms – Operations Appendix 7 – CMS Plan for Mar fortune

1.12. Containment:

All necessary precautions will be taken, based on industry leading solutions for transfer, containment and logistics of eggs, fry, smolt and fish. American Aqua Farms has created a detailed plan for containment and countermeasures in accordance with legislative requirements.

American Aqua Farms is using industry leading solutions designed and tested for many years with a high degree of reliability to ensure containment and bio security of handling and rearing the fish at sea. We adhere to the strictest of industry standards regarding equipment and operational procedures and have based containment planning on the decades of operational experiences in Norwegian salmon farming and under the supervision and legislative regulation under Norwegian law. This includes using closed containment and tank systems when transporting, moving or harvesting the fish, combined with rigorous routines for monitoring and data logging. All operations are also based on the principle of identifying Critical Control points and having additional barriers and extra layers of security present. The rearing of the fish in the closed pens system is similarly designed with a rigid and elevated collar with strong excess buoyancy and elevation from the surface. Two separate barriers of containment are provided by having a traditional net inside an ultra-strong polymer sack able to withstand up to 28 mt of stress per m², as well as continuous manual and automated maintenance and monitoring of critical control points. Together, the operational control and countermeasures
implemented ensures that there is virtually no risk of escape of fish during any part of the planned operations.

1.13. Description of Closed-Pen System

The Eco-pen from American Aquafarms is a floating, closed containment aquaculture production system. The floating collar is made from rigid aluminium and holds a fabric sack made from an ultra-strong impermeable polymer membrane. Inside the fabric sack is an ordinary net pen for extra security and easy handling of the fish. This creates two barriers of separation to surroundings. Water is collected at depth (estimated at 30 meters) through six separate pipes and pumped into the pen creating a circular current. The water temperature inside the Eco-pen can be optimised by collecting water from varying depths according to hydrographic conditions. The intake of water is depth adjustable and will be optimized to collect water according to desired temperature and other variables. Different and interchangeable filters can be temporarily fitted to the intake pipes to control intake water for the prevention of algae or jelly fish and other, if needed. The main outlet of the pen is located at 30 m and is fixed. By lifting the water column inside the pen between 4-15 cm (adjustable) above surrounding sea-level, the pumping action creates overpressure inside the pen. This ensures a stable and rigid placement of the polymer sack in the water column, that makes it able to withstand external pressures from weather and currents.

Oxygen is continuously added to the inflowing water by diffusors creating optimal and stable environment for fish health. The result is zero lice, high survival, lower use of feed and high growth. Waste from excess feed and fish excretions, will travel with the main water flow.
towards the bottom of the pen. The solids settle in a sedimentation trap/ funnel that is 6m below the primary outlet. Accumulated waste is continuously pumped from the bottom of the pen to the top of the collar by a specialized pump system, before being transported to a central waste treatment station on a waste barge where it is pressed and dried before being transported to shore for further processing. (For detail see Waste/by-product treatment plan). Dead fish is automatically collected from the bottom of the inside net and pumped to an ensilage system. Electricity and oxygen supply is secured through a three-level backup system. For further illustration see drawings below.
NEXT GENERATION FISH FARMS

Closed pen technology removes most of conventional industry issues, and is a modern day solution to age-old problems.

CLOSED PEN TECHNOLOGY

- A proven and robust technology that has significant less risks than traditional open net pen operations
- Controls waste from reaching the ocean
- Eliminate fish escapes
- Reduces the need for medicine/chemicals
- Eliminates sea lice
- Prevents predators
For more detail see Appendix:

American Aquafarms – Illustration Appendix : Closed pen systems
American Aquafarms – Operations Appendix 8 – CMS Plan
1.14 Description of Waste Collection and Handling System

American Aquafarms is using special equipment to reduce environmental impact by collecting and treating the waste and by-products from salmon farming. This ensures that the discharge from the proposed site will be drastically reduced as compared to traditional open net pen farming.

The waste is continuously collected from the bottom of each pen and pumped to the central barge where the density of the waste is concentrated and then pumped into tanks where it is stored for transport. The tanks (about 250 m³) are then emptied, and the waste is transported on-shore by the service-vessels.

American Aquafarms care deeply for the protection of the environment and by collecting and removing waste that otherwise could have had a potential negative impact on the marine habitat, we can make sure that production is sustainable and environmentally sound. What would have been waste can by collection and treatment be turned into usable by-products with many uses. On-shore the waste is processed and treated and can used for bio-fuel, fertilizer, etc., thus ensuring a circular economy.

The remaining surplus waste is finally burnt through an environmentally friendly process. (pyrolytic process)
For more detail see Appendix:

American Aquafarms – Illustration Appendix : Illustrations of salmon processing methods
2. Production

Describe the start-up and projected maximum production on a 12-month basis per pen and system. State the maximum stocking density in pounds per cubic foot.

The ramp-up plan, as explained below, is divided into 3 stages and is based upon envisioning the coordination of operations with a second lease area. Week 1 will correspond with a start estimated between 3-6 months after final approvals for the lease application. A full production cycle from stocking to harvest is forecasted to be 17-18 months.

We expect harvest to begin around month 17, at which time production will be approximately 15,000 metric tons per year for the site, which is approximately 1,000 metric tons per pen.

The lease site will be stocked with 840,000 – 890,000 pcs fish on average every 18th week. As fish grow and stocking densities reach upper limits, the fish batch will be split into new pens. American Aquafarms intends to contract external well boat adhering to regulatory requirements to transfer fish between pens. The target density for small individuals is 1.9 lbs/f³, while larger individuals (1.5 kg +) will have a target density of 2.2 lbs/f³ upon transfer/harvesting.

The timeline below shows an example timeline. The exact timeline and production-planning is going to be dependent on what time of the season the initial fish is put into pens (week 1). The reason for this production-planning is the be able to have a consistent amount to harvest every week.

Stage 1

The timeline shows when the pens are going to be in place at the site, also incorporating the timeline for coordination with an envisioned second lease area.
During Stage 1, we will utilize a Temporary Barge (Deck Barge), Waste treatment modules, waste storage containers, and a portable feeding system. The plan is to have fish in a total of 8 pens at the lease site at the end of this stage.

**Stage 2**
Stage 2 is from week 32 (month 8) until month 11. In this stage we are starting to put pens in the second site. And the number of pens will increase from 8 to 15. The timeline below shows an example timeline of stage 2 and 3:

![Example Timeline of Stage 2 and 3](image)

**Stage 3**
Stage 3 is from month 11 until full operation, approximately month 17 or 18. This is when the first harvest is done, and we reach a steady harvest of 250-300MT per week at the end of this period.

For more detail see Appendix: Operations Appendix 1: Ramp-up Plan

3. Feed

**Estimate the monthly pounds of feed per pen system over 12 months at start-up and maximum production.**

The ramp-up plan describes the activities from when the first pen is ready to use (hereafter referenced to as week/month 1).

The table below presents the monthly feed use at the lease site over the first year of start-up and during a month of maximum production.
Feed schedule will vary depending on seasonal factors, and age and size of the fish at specific temperatures and light conditions. Table is based on projections with a January start.

<table>
<thead>
<tr>
<th>Month</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lbs</td>
<td>28,220</td>
<td>42,387</td>
<td>94,151</td>
<td>168,672</td>
<td>323,095</td>
<td>527,533</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Month</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lbs</td>
<td>843,930</td>
<td>887,109</td>
<td>1,016,445</td>
<td>1,260,951</td>
<td>1,384,336</td>
<td>1,439,335</td>
<td>2,480,175</td>
</tr>
</tbody>
</table>

4. Best available technology

Provision of best available technology for the proposed activity.

American Aquafarms is co-operating with leading world partners to provide the best possible solutions for the different aspects of the operation. Norway is today the leading producer and exporter of farmed salmon in the world with over 1.6 billion kg produced annually. The sector has had high growth over the last 30 years and is today Norway’s second largest sector after Oil and Gas. Bjorn Apeland is the founder and CEO of Amar group and a board member of American Aquafarms. He has previously founded several companies including Steinsvik (now ScaleAQ), which is one of the world’s leading suppliers of technical equipment for the Aquafarming industry. Equipment from his company is today in use in over 600 locations worldwide and is part of the production of every third salmon farmed.

The equipment that will be used on the lease site is the best industry practices in Norway, based on the combined experiences and expertise from our partners and management and board members.

For more details see Appendix:

American Aquafarms – Operations Appendix 9 – Best available technology

5. Employment Opportunities

Describe the anticipated number and type of employment opportunities created by the project at start-up and proposed maximum production.

Estimated direct employment opportunities for lease site:

- The site will be manned by two shift - based crews of 8-10 people. (16-20 FTE total)
- Two shifts of crew of 5-7 operating the main service vessel to the site. (Est 10-14 FTE total)
- Specialized service personnel like electricians, mechanics and system engineers. (Est. 4-5 FTE total)
- Waste handling crew. (Est. 2-3- FTE total)
- Control room operators and general management (onshore) (Est. 15-20 FTE total)
- Other management and general operations (Est. 10-15 FTE total)

Aggregated estimated FTE for site operations: 57-67 FTE total
The jobs will be locally sourced, full time and year-round, and will be a mix of skilled and unskilled labor. In addition to the permanent jobs listed above, installation of the lease equipment may result in additional temporary jobs.

*If American Aquafarms has two lease sites, some of these positions will serve both sites.

**Land based employment opportunities linked to planned site operations:**
Contingent upon receiving the proposed lease:
- American Aquafarms will develop the Maine Fair Trade Lobster facility at Prospect Harbor, Gouldsboro to build a hatchery, waste/biproduct facility, and processing facility.
- The employment opportunities and economic impact from these operations will be significant, and American Aquafarms intends to develop a comprehensive work force strategy including co-operation with educational institutions to build local expertise and knowledge. The growth of the workforce will be implemented over time.
- The construction at the MTFL property will be sourced from Maine based companies as far as possible and will have a significant economic impact.

b. **Noise and Light**

1. **Powered equipment**

   Provide the type of powered equipment, if any, that will be used on site, including, but not limited to boats, barges, power washers, generators, upweller motors, harvesting or seeding equipment, and feeding equipment. Vessels moving to and from the site are considered exempt from the noise impact consideration.

   **Pens**
   - Backup generator
   - Pumps and control systems
   - O2 systems
   - Cleaning robots
   - Feeding system

   **Central Barge for Feed storage and Waste/By-product removal**
   - Feed pump systems
   - Bilge pumps (safety systems, oil spill prevention systems)
   - Generators
   - Waste dewatering units
2. Equipment Use

Indicate generally when, how often and for how long this equipment will be used (i.e. daily, weekly, only during harvesting).

**Pens**

- Backup generator: One 50 kw generator per pen (15)
  * Operating hours: Backup only
  * Estimated operating output: 100%

- Circulation Pumps: Continuous operation (electrically powered, no noise or lights)

- Waste treatment pump: Continuous operation (electrically powered, no noise or lights)

- Oxygen delivery systems: Continuous operation (electrically powered/ pneumatic pressure, no noise or lights)

- Cleaning robots: Revolving routine schedule daytime only.
  * Electrically powered, no noise, lighting when submerged.
  * Operated by crew from small service vessel.

- Feeding system: Continuous operation. Reduced operation at night. Low levels of noise. No lights

- Bio waste (dead fish pump): Continuous operation (Dependent on dead fish accumulation). No noise, no lights.

**Central Barge for Feed storage and Waste/By-product removal**

- Feed pump systems: Continuous operation. Reduced operation at night. Moderate noise. No lights

- Generators

  The barge will contain the main power source: *Five 500 kw diesel generators*:

  - Operating hours: Continuously, but reduced operation at night, individual shutdown for periodic maintenance.
  - High level of noise reducing insulation mufflers. No lights.
  - Estimated operating output 90%
  - American Aquafarms intends to have auxiliary battery pack to optimize generator running and efficiency. This will be detailed pending final barge design.

- Waste treatment modules: Continuous operation, reduced operation at night. Periodic shutdowns for maintenance. Low levels of noise, No lights
- Ensilage system for dead fish handling: Continuous operation (Dependent on dead fish accumulation). No noise, no lights.

3. Noise Level Reduction

Specify what will be used to reduce the noise level from the powered equipment, i.e., mufflers, etc. You do not need to provide decibel or frequency ratings unless they are known or provided by the equipment manufacturer.

The lease will not result in unreasonable impact from noise at the boundaries of the lease site. American Aquafarms will undertake maximum effort to reduce generator sound level and mechanical vibrations to the maximum extent practical. The generators will be housed on the feed/process barge in a closed custom unit with a high degree of noise reducing insulation. All efforts to reduce noise from generator operation to a level not intruding on the surroundings will be made. This includes reducing the sound level of the source by optimizing duration and frequency, installation of acoustic barriers, using acoustic insulation, installing isolation mounts, and cooling air attenuation. The exhausts will have silencers and mufflers to further reduce noise emissions. The generators will be operating at optimal output to minimize noise and achieve best possible running efficiency. American Aquafarms is actively exploring alternative sources of power such as hybrid electric power sources. American Aquafarms intend to have auxiliary battery pack to optimize generator running and efficiency. This will be detailed pending final barge design.

4. Number and Type of Lighting

Provide the number, type (whether the fixtures are shielded), wattage and location of lights, other than those used for navigation or marking, that will be used at the proposed lease site.

The lease will not result in unreasonable impact from light at the boundaries of the lease site. American Aquafarms will undertake maximum effort to reduce impacts from lighting on the lease area and will make special consideration to shielding all light emissions impacting the night sky and the view from Acadia National Park. All reasonable measures will be taken to mitigate light impacts from the lease activities.

All exterior lighting will be mounted in cutoff fixtures and will be designed, located, installed, and directed in such a manner as to illuminate only the target area and to reduce glare. Exterior lighting will be no more than 250 watts per fixture, with the exception of required navigational lighting, spotlights and floodlights. American Aquafarms has specified the regulatory requirements to supplier of lighting plans (Scale Aq) Lighting on the lease site includes the following:

- Navigational lights: Operated in accordance with regulations.

- Emergency/ floodlights may be used when necessary to ensure safe working conditions and will be directed only at the work area to be illuminated, and will be the minimum needed for safe operations.

- Husbandry lighting will be submerged, operated at all times below the water line and will be shielded to minimize night-time visibility.
- Walkway and feed/process barge lighting (work light for personnel): dimmable walkway lights and approximately 15-20 work-lights on the barge. All lighting will be designed to illuminate only the target area. The use of non-reflective coating/foil on the structures will minimize indirect lighting and reduce glare. All fixtures used on the barge are controlled through the integrated barge control system. The exterior work light fixtures will only be used as needed to maintain farm operations.

For more detail see Appendix:

American Aquafarms – Site Dev Appendix 3 – Lighting

5. Work Beyond Daylight Hours

Indicate under what circumstances you might work at your site beyond daylight hours.

Regular operation will not occur beyond daylight hours. However, operations on site beyond daylight hours may be required, based on contingency planning and emergency response. These operations will be triggered by weather, or other unforeseen events. Examples of unforeseen events are:

- Physical damages to structures
- Fish disease/death
- Break-down of mechanical or electrical equipment
- Force majeure

All logistical operations will be logged in case an audit is requested.

c. Upland Facilities or Holdings

Describe shoreside facilities or holdings to be used for various activities including feed transport, processing, etc.

Contingent on having two leases, American aquafarms will repurpose the Maine Fair Trade Lobster site, by building a hatchery, a processing facility, and waste/by-products facility. Other planned operations include a dock extension, as well as fuel and oxygen tanking facilities. Crew facilities and management will also be located at the site. Distance between the land base to the site for marine transport is 15 nautical miles. American Aquafarms is considering an additional onshore base located in closer proximity to Frenchmen Bay to facilitate logistical operations.

For more detail see Appendix:

American Aquafarms – Illustration Appendix : Land based operations

d. Current Operation

Describe your existing water-based facilities and operations.

American Aquafarms has no existing water-based facilities or operations. We have applied for a second net pen lease in Frenchman Bay concurrently with this application.
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