INFORMATION FOR CONSULTATION

Application for the Grant of an Aquaculture Licence and Aquaculture Lease

Seaweed Abrolhos Islands Pty Ltd

Abrolhos Island

File Ref	fA735868
Date of Application	21 February 2023
General Location	Pelsaert Group, Abrolhos Islands
Total Area of Proposed New Sites	2 sites with a combined area of 20 hectares
Species	Seaweed species (*Asparagopsis taxiformis* and *Asparagopsis armata*)
Culture Method	Longlines
Other Sites (within close proximity)	Bruce Cunningham (IDCA 1347) Pelsaert (WA) Pty Ltd (IDCA 1540) Sea Urchin Pty Ltd (IDCA 1577) WTN Nominees Pty Ltd & Pelsaert (WA) Pty Ltd (IDCA 1615) Andrew Joseph & Tracey Lee Basile (IDCA 1632) Peter Karen Armstrong (IDCA 1642) Batavia Coral Farm Pty Ltd (IDCA 1643) Abrolhos Island Oysters Pty Ltd (IDCA 1654) Wildblue Holdings Pty Ltd (IDCA 1655) Abrolhos Grown Pty Ltd (IDCA 1663)
Consultation Period	1 September 2025 – 29 September 2025
Further Information	Contact Siti Mutaza at the Department of Primary Industries and Regional Development (DPIRD) on aquaculture@dpird.wa.gov.au.

Proposal

On 21 February 2023, Seaweed Abrolhos Islands Pty Ltd (SAI) made an application to DPIRD for an aquaculture licence and aquaculture lease to culture *Asparagopsis taxiformis* and *Asparagopsis armata* at two proposed sites within the Pelsaert Group at the Houtman Abrolhos Islands. Each proposed site consists of an area of 10 hectares. One site is located in deep water within a reef lagoon in the northeast of the Pelsaert Group. The second site is located in waters of varying depth at the southern end of the group. These locations have been selected based on their suitability for seaweed cultivation, with consideration given to optimal depth, water currents, and natural protection from prevailing winds.

A site plan of the proposed sites is at **Appendix 1.**

This proposal follows the completion of aquaculture research and development trials conducted under Exemption Number 251040522, which demonstrated the viability of culturing *Asparagopsis* species within the Pelsaert Group. Based on this outcome, SAI is now seeking to transition its operations to the proposed sites to support commercial-scale aquaculture of these species.

A. taxiformis has been identified as particularly suitable for processing into livestock feed, with demonstrated potential to significantly reduce methane emissions in cattle. The proposed expansion is intended to support sustainable agricultural practices and deliver positive environmental outcomes through the ongoing advancement of commercial seaweed cultivation for use in livestock feed, specifically targeting the reduction of methane emissions in cattle.

Source of Stock and Methods

Seedstock

SAI proposes to grow *A. taxiformis* on longline structures using seedstock cultivated during its research and development trials.

Infrastructure

The seeded dropper ropes will be installed onto a backbone-style infrastructure consisting of multiple long lines, as outlined in **Figure 1**.

Each hectare of infrastructure will include:

- Nine backbone lines spaced 10 metres apart.
- Each line will be anchored at both ends using low impact stingray anchors with vertical hanging ropes suspended at 2-metre intervals.
- Floats of approximately 200mm in diameter will be positioned every 10 metres along each backbone line to maintain buoyancy.
- Anchor lines will extend approximately 25 metres to ensure stability and minimal environmental disruption.

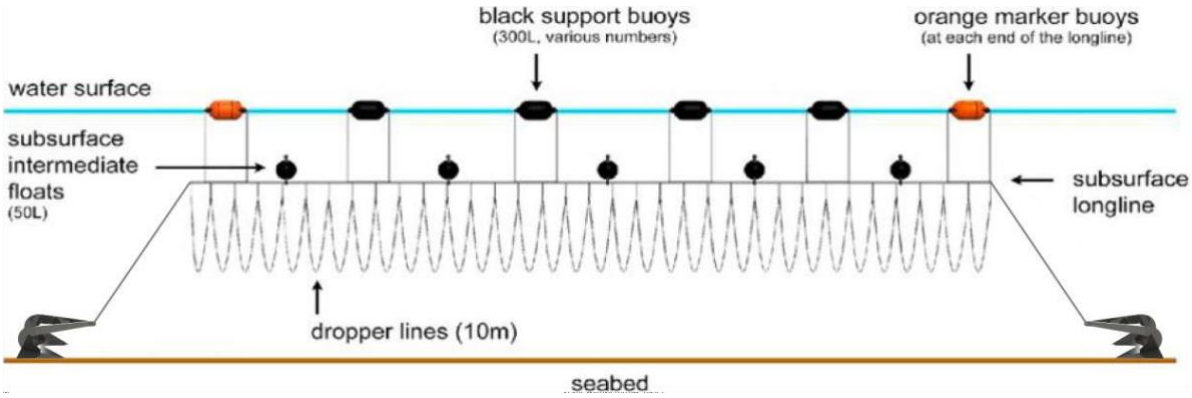

Figure 1: Proposed long line configuration and anchoring.

Harvesting

Harvesting will be conducted using a semi-automated system designed to minimise environmental impact and improve operational efficiency. A work vessel equipped with a hydraulic hauler or capstan winch will retrieve the seeded ropes from the backbone structures. Each rope will be fed through a mechanised stripping unit onboard, which will remove the seaweed using roller-based or blade-assisted technology. The stripped biomass will be conveyed directly into collection bins or onto a sorting conveyor for immediate processing. This system significantly reduces manual handling, enhances harvest speed, and limits stress on both the infrastructure and surrounding marine environment.

Post Harvest Processing

Following harvest, the seaweed will undergo a preservation process using the "wet seaweed in oil" method. The biomass will first be cleaned with seawater to remove debris and marine organisms, followed by mechanical dewatering using a centrifuge or spinning drum. The cleaned, damp seaweed will then be mixed with canola oil in a controlled, closed-system environment to stabilise and retain bromoform content. The mixture will be stored in sealed containers with spill containment measures in place to prevent environmental contamination. Final processing will involve agitation to ensure uniform oil distribution and storage in airtight containers to protect bioactive compounds from degradation.

Land Based Facilities

SAI has access to four existing camps on Uncle Margie Island, which will serve as the land-based operational facility. A separate licence application will be submitted to authorise any aquaculture activities (for example, a future small-scale hatchery) on this land-based site. The facilities will support farm staff and host the initial stages of post-harvest processing.

Vessels

A 19-metre mother ship will be used to transport equipment, personnel, and cultured gametophytes between Geraldton and the Abrolhos Islands. This vessel is fully equipped to support harvesting operations and has sufficient capacity to carry seaweed stock and supplies required for the aquaculture activities.

Management and Environmental Monitoring

SAI recognises the ecological sensitivity of the proposed areas within the Pelsaert Group and is committed to ensuring that aquaculture activities are conducted in a manner that protects surrounding marine habitats and biodiversity.

SAI has submitted a Management and Environment Monitoring Plan (MEMP), which includes environmental management processes, biosecurity protocols and incident and emergency procedures.

SAI's MEMP outlines environmental controls including monitoring anchor and mooring systems at the time of deployment using photographic and video records to confirm that infrastructure is placed away from sensitive benthic habitats. Annual benthic surveys will be conducted on longlines to assess seaweed wrack accumulation and any visual changes to sediment conditions. Monitoring results will be compiled in the Annual MEMP report and submitted in accordance with aquaculture licence conditions.

SAI will monitor weather conditions, including storm and swell forecasts from the Bureau of Meteorology, to proactively manage the risk of macroalgal dislodgement. In the event of predicted marine heatwaves, additional precautions will be undertaken, including adjustments to harvest schedules to reduce exposure.

SAI has identified appropriate response thresholds in the event of disease outbreak or a mass mortality event. In the event of a 30% biomass loss within a 24-hour period, SAI will notify DPIRD immediately and implement appropriate response actions, which may include additional monitoring or removal of detached seaweed to prevent environmental impacts. Any rates of unexplained mortality or signs of disease will be reported to the DPIRD Diagnostic Laboratory Services, as per aquaculture licence conditions.

SAI is committed to minimising interactions with marine fauna through the implementation of industry best-practice infrastructure design, operational protocols, and staff training. Employees will be provided with thorough training to ensure consistency in identification and reporting of protected and threatened species interactions. SAI has also considered the proximity of bird roosting areas in its site planning and will proceed with staged development to maintain a buffer of over one kilometre from sensitive habitats. An adaptive management approach will be employed to investigate and respond to any incidents, with a commitment to modifying operations where necessary to protect marine fauna.

Risks

Asparagopsis species occur naturally in coastal waters within the Abrolhos Islands. This proposal does not contemplate the introduction of cultured algae from outside of the Abrolhos Fish Habitat Protection Area. The applicant has also committed to a procedure for cleaning and disinfection of equipment, personnel and vessels. Consequently, the risk of the proposed aquaculture activity resulting in the introduction of disease or marine pests is considered low.

SAI has identified response thresholds in the event of disease outbreak or significant mortality. These will support a timely response in the event of an incident and reduce the risk of accumulation of seaweed wrack and associated environmental impacts.

Appendix 1 – Site Plan