



Frequently Asked Questions

Albany Aquaculture Development Zone

July 2021



As part of its commitment to developing a sustainable marine aquaculture industry, the State Government is establishing aquaculture development zones to support commercial aquaculture operations, with benefits to the State and the community.

A new zone on the south coast of Western Australia (WA) will offer opportunities for commercial shellfish aquaculture in Albany waters.

In consultation with WA's aquaculture industry and key stakeholders, the Department of Primary Industries and Regional Development (DPIRD) has identified several areas of coastal waters off the south coast suitable for shellfish farming. Environmental studies have been undertaken to ensure the sustainability of commercial shellfish farming in those areas, and this will be supported by ongoing monitoring.

These Frequently Asked Questions (FAQs) on the Albany Aquaculture Development Zone (Zone) provide information about:

- aquaculture activities that will take place within the Zone
- the benefits to the community and region that will ensue from aquaculture
- the controls and management practices that will be established to ensure the industry remains environmentally sustainable.

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Establishment

1. What is an Aquaculture Development Zone?

An Aquaculture Development Zone is a designated area of water selected for its suitability for a specific aquaculture sector (for example, marine finfish or shellfish). Aquaculture Development Zones provide “investment ready” areas of water with strategic environmental approvals and management frameworks in place for commercial-scale aquaculture operations.

2. Has the Albany Zone been established yet?

The Zone is being declared in two stages:

- **First stage:** Oyster Harbour Area – declared in August 2020.
- **Second stage:** Princess Royal Harbour and King George Sound Areas – proposed areas in Shoal Bay (Princess Royal Harbour) and Northern Mistaken Island, Southern Mistaken Island and Misery Beach (King George Sound) - not yet declared.

3. When will the second stage be declared?

The Princess Royal Harbour and King George Sound areas of the Zone are within the jurisdiction of the Southern Ports Authority (SPA) and will be declared once arrangements with the SPA are finalised, to enable use of the relevant areas for aquaculture purposes.

DPIRD is currently assessing applications for additional aquaculture licences and leases in the Oyster Harbour area of the Zone. The assessment includes analyses of business and technical feasibility to provide information that may be used to determine applications that may be made for the same or overlapping areas of water.

4. How large are the proposed Zone areas?

In Oyster Harbour, the Zone area occupies 33% of the total Harbour area. This encompasses 516.4 hectares, which includes approximately 171 hectares (one third) of pre-existing licensed aquaculture sites that have been operating since the 1990s (previously approved for aquaculture before the declaration of that area of the Zone).

In King George Sound, the area of interest occupies approximately 8% of the total Sound area, encompassing 118 hectares at Mistaken Island and 154 hectares at Misery Beach.

In Princess Royal Harbour, the area of interest occupies approximately 2% of the total Harbour area, encompassing 60 hectares in Shoal Bay.

5. How were the Zone areas developed?

Aquaculture areas were identified through a Geographic Information System (GIS) mapping tool desktop study using relevant selection criteria. On-site investigations to validate the selected areas were then undertaken.

Following public consultation and stakeholder engagement, site boundaries were proposed with the aim of balancing the various stakeholder needs with aquaculture industry development.

6. Does the Zone overlay any Aboriginal title or claim sites?

All the proposed Zone boundaries are below low water. There is no overlay with Aboriginal titles or claims.

Authorisation and access

7. Are there any existing aquaculture licence and lease holders in the Zone?

There is currently one aquaculture operator in the Oyster Harbour area of the Zone, which was authorised prior to the establishment of the Zone.

8. Am I allowed to transit through the Zone and are there any public access restrictions?

Aquaculture development zones do not provide exclusive access. The Zone has been developed taking account of the needs of multiple users, and strives to minimise the impact on other activities.

Public access to the water between the aquaculture gear lines will be permitted, with vessels able to travel through the Zone and the farms provided they do not interfere with any aquaculture gear or the aquaculture farm operations.

Aquaculture gear lines in the Zone must be spaced at least 20 metres apart in new aquaculture sites, which will allow for access and navigation.

9. Can I fish within the Zone?

Recreational and commercial fishing are permitted within the Zone, provided they do not interfere with any aquaculture gear or the aquaculture farm operations.

10. What species will be farmed in the Zone?

The zone has been established for shellfish aquaculture for species such as mussels, oysters, and scallops. These are all filter-feeding species that do not require supplementary feeding using manufactured feeds. Species authorised to be farmed will be determined and specified on aquaculture licences in line with departmental policies.

11. How is an aquaculture operation authorised?

The *Fish Resources Management Act 1994* and the *Fish Resources Management Regulations 1995* provide the legislative framework for regulating aquaculture in WA.

Authorisations for aquaculture in WA include an aquaculture licence and an aquaculture lease. The licence authorises the actual activity, while the lease provides tenure over the area (tenure does not provide exclusive access).

12. How long is an authorisation valid?

Aquaculture licences are generally issued for 12 months, with a right of renewal. Aquaculture leases may be granted for up to 21 years. There is the possibility of granting longer licence periods into the future.

13. How will aquaculture operations in the Zone be managed?

Aquaculture operations will be managed primarily through licence conditions and requirements specified on Management and Environmental Monitoring Plans (MEMP). Individual MEMPs are assessed and approved during the licence application process. Aquaculture leases include provision for an Aquaculture Development Plan, which specifies development targets to ensure that the aquaculture site is being used for the purpose it was granted.

14. What penalties apply if an aquaculture operator breaches a licence condition?

If licence holders breach conditions of their licences (including Management and Environmental Monitoring Plan requirements), we can apply penalties specified in the *Fish Resources Management Act 1994*.

15. What are the final stages to establish the Zone?

Once all arrangements are in place for the proposed sites in Princess Royal Harbour and King George Sound, the Zone can be declared. Applications will then be sought for aquaculture licences and leases.

Economic development opportunities

16. Will the Zone benefit the local community?

Aquaculture is a growth industry for WA, helping to diversify the economy, create direct and indirect jobs and support coastal towns.

Aquaculture has been identified as an area of significant opportunity for the Great Southern region. The development of the industry in Albany will bring with it a range of benefits to the environment, local community, and local, regional, and State economies.

An expanding aquaculture industry creates opportunities for businesses, such as feed manufacturing, equipment manufacturing, processing and value adding, particularly in regional areas where aquaculture farms develop.

17. How will the Zone influence Albany's seafood reputation?

WA has a reputation for having world-class sustainable fisheries and our aquaculture industry is well positioned to meet increasing domestic and global seafood demand.

The Zone will provide a significant increase in the locally grown supply of premium-quality seafood that will complement existing wild-harvest products, such as fish and squid, benefiting marketing opportunities for the region.

Shellfish aquaculture creates opportunities to promote Albany on the global stage as a significant producer of premium-quality seafood protein, and also high value nutraceuticals derived from shellfish products.

18. Will the Zone generate infrastructure investment, business, and R&D opportunities?

Significant aquaculture development will stimulate further infrastructure investment, business, and research and development activity in Albany, as the town becomes a strategic hub for WA's growing aquaculture industry.

Local manufacturing of aquaculture equipment will become viable as the scale of aquaculture development increases. The need for ancillary services will generate business and economic growth in a range of downstream industries.

19. Will the Zone generate new jobs, careers, and training opportunities?

The development of the Zone will generate significant employment in Albany both on-farm and in specialist supply-chain industries such as hatcheries, shellfish processing and packaging, and aquaculture equipment manufacturing.

Aquaculture will provide employment career pathways and training. South Regional TAFE has already committed to developing specialist aquaculture training courses to meet the demands of the growing industry for skilled local labour. Aquaculture development in the region will stimulate direct and indirect growth in other industries such as construction, transport, retail, education, and hospitality as opportunities and investment in the region increase.

20. What are the benefits for local recreational and tourism industries?

The Zone will provide a feature of interest for tourists and create opportunities for site tours and facilities to inform visitors about aquaculture operations and benefits to the region.

Aquaculture farms are likely to become 'hot-spots' for recreational fishing due to their positive impact on local fish populations, which will benefit the recreational fishing community, charter industry, fishing gear retailers and fishing boat suppliers.

Significant production of shellfish in Albany will create a range of hospitality and culinary tourism opportunities focused on Albany as an oyster-eating destination - in a similar way that the Marlborough Sounds in New Zealand is a mussel-eating destination. Oyster bars, seafood restaurants and seafood festivals are all potential by-products of aquaculture development in Albany.

Environmental and health impacts

21. What are the benefits to the ecosystem?

All shellfish filter marine algae, suspended organic matter and other particulates from the marine environment, thereby improving water quality and contributing to nutrient cycling. Nutrients are extracted from the water column as a food source and then deposited on the sediment as faeces to nourish seagrass populations and returned to the ecosystem through natural biochemical processes.

In Europe, uptake of nutrients by oyster farms as small as one hectare can compensate for the nitrogenous waste of 40 to 50 coastal inhabitants.¹ Studies show that shellfish aquaculture contributes to biosequestration of carbon into shell.²

Shellfish farms also provide shelter and habitat for other marine species and can act as nursery areas for juvenile fish. Studies undertaken in NSW show fish populations in and around oyster leases can be significantly higher than in open water.

¹ Krause G., Buck B. H., Breckwolfdt A. 2018. Socio-economic aspects of marine bivalve production. *In Goods and Services of Marine Bivalves*, pp. 317–334, Ed. by Smaal A.C., Ferreira J.G., Grant J., Pedersen J.K., Strand Ø. Springer Open, Cham, Switzerland

² <https://thefishsite.com/articles/carbon-sequestration-potential-of-shellfish>

22. Does the Zone have public health benefits?

Water quality testing is a requirement of the aquaculture of edible bivalves (shellfish) to determine the presence of bacteria and viruses in the water column that may be potentially harmful to humans.

Water filtration provided by shellfish feeding can reduce the incidence of harmful algal blooms that are a threat to public health.

Shellfish aquaculture will provide better public information about water quality and certification standards through the overall monitoring and testing of marine environmental conditions required by the WA Shellfish Quality Assurance Program.

Shellfish aquaculture provides a sustainable source of high-quality protein. Few other foods can compare with the nutritional balance of oysters. Oysters are easily digestible, rich in minerals (zinc, selenium, magnesium, calcium, and iron) and vitamins (A, B1, B2 and C) and considered a “superfood” in terms of their protein and omega-3 content. They are low in cholesterol, containing approximately one quarter of the cholesterol of prawns and squid, equal to most other fish and well below the cholesterol levels in red meat and some poultry.

23. Will chemicals or food be added to the water?

Shellfish aquaculture does not involve the addition of any chemicals or food to the water. Sometimes referred to as the canaries of the waterways, oysters are an excellent indicator of water quality and estuary health. Shellfish farmers rely heavily on good quality marine environments to produce a premium quality product and are often proactive environmentalists.

24. What food safety requirements are in place for the farming and processing of oysters?

Managed under the provisions of the *Food Act 2009*, monitoring is undertaken by the Department of Health (DoH). DPIRD provides support to DoH and aquaculture operators through a dedicated WA Shellfish Quality Assurance Program Officer.

25. Has an EPA assessment been undertaken for the Zone?

An initial assessment by the Department of Water and Environmental Regulation (DWER) and the Environmental Protection Authority (EPA) concluded the shellfish species (mussels and oysters) to be farmed in the Zone are benign and hence very unlikely to adversely affect the environment.

DWER and EPA support was dependent on having in place best-practice management and monitoring programs. The State Government has existing legislative powers sufficient to ensure effective management and monitoring programs can be implemented.

To support the ability to monitor and manage environmental impacts, several studies have been commissioned, including a comprehensive assessment of the potential impacts of proposed aquaculture developments on the marine environment. The environmental assessment study is currently being updated to incorporate additional industry data on historical productivity in Oyster Harbour. This will improve the accuracy of the modelling and will continue to be updated as new data and information become available.

26. Why are mussels and oysters considered benign species?

Shellfish grow by filtering naturally available food in the water column and do not require the addition of any food or chemical additives to the water to encourage growth.

Shellfish aquaculture gear generally comprises surface lines, braced under tension by anchors and anchor lines primarily using heavy rope. Although it can occur, the likelihood of entanglement of birds or marine mammals is very low on a well-managed bivalve shellfish aquaculture farm.

There are no adverse environmental impacts commonly associated with bivalve shellfish farming.

27. What standards will be set to monitor aquaculture operations and protect the environment?

Operations will be managed through a framework including licence conditions and Management and Environmental Monitoring Plans (MEMPs), which are approved by the Department.

Adverse environmental impacts from shellfish aquaculture in Albany are not expected due to the shellfish species being recognised as very low risk.

28. What is a MEMP and how does it operate?

A key part of the State Government's role is to ensure environmental management and regulation of the industry. Issues around biosecurity are an important consideration, in order to protect biodiversity and prevent the spread of aquatic pests and diseases.

Unless exempt, applicants must develop a Management and Environmental Management Plan (MEMP) in support of their licence applications. The MEMP guidance statement and MEMP document template provide information in relation to developing a MEMP and are available on our website at: fish.wa.gov.au/Fishing-and-Aquaculture/Aquaculture/Aquaculture-Management-and-Licensing/Pages/Assessment-process.aspx

Depending on the scale and complexity of the operation, applicants may need to engage a consultant to assist with developing a MEMP.

29. What measures are in place to ensure there is no dumping of shellfish waste?

The management of any waste product from marine aquaculture farms and associated processing is addressed via clear licence conditions and in operators' Management and Environmental Management Plans (MEMP). A key objective of a MEMP is to protect the marine environment from any potential ecological impacts of aquaculture development. Shell waste may be disposed of at a City of Albany waste facility.

30. What measures will regulate stocking levels?

Natural environment and ecological processes effectively determine optimal stocking densities and hence biomass. Overstocking a shellfish operation will result in significantly reduced growth rates and poor-quality product. Operators will actively avoid this through efficient management practices.

Aquaculture gear lines in the Zone must be spaced at least 20 metres apart, which is an automatic limiting factor on biomass.

Stocking levels will be monitored according to information that licence holders will be required to provide. This information will include seed input, time to market, growth and survival, oyster condition and annual production levels.

31. How do we know stocking levels will not adversely impact wild populations of shellfish?

Native oysters and other shellfish (such as clams) naturally occur on the harbour substrates (sediment and reef). They occupy an ecological niche different from that occupied by aquacultured shellfish, which are cultured at or near surface waters.

Shellfish aquaculture has been occurring in Oyster Harbour for more than 30 years (early oyster farming efforts in Oyster Harbour date back to 1947, although commercial operations did not commence until 1991).

32. What protocols are in place to prevent harmful species being imported into Albany waters?

Only shellfish aquaculture authorisations are issued for species that occur naturally in an area and are not invasive in any way.

There are strict biosecurity protocols for the movement of stock between different areas of the State to prevent the introduction of non-endemic species and, or, any new pests or diseases. Biosecurity threats are monitored via regular health certification requirements.

33. Will aquaculture operations affect water flow and currents?

Shellfish farmers specifically aim to minimise any water flow disruption, as water flow is what delivers food to the shellfish and promotes healthy growth.

Oysters and other bivalves will be farmed in the Zone using technology that will generally deploy aquaculture gear floating flat on the water surface or suspended at the surface on a post and rail system. This means the aquaculture gear is unlikely to substantially affect water flows. Successful oyster aquaculture depends on maintaining water flows.

Mussel longlines are located in deeper waters and extend to approximately three to five metres with droppers 0.5 metres apart.

34. How will the impact on marine life be monitored and managed?

Shore and wading birds

The intertidal zone is a potential feeding zone for waders and other seabirds. None of the areas in the Zone (declared or proposed) overlap the intertidal zone.

A risk assessment of the impact to marine birds is being completed, in consultation with the Department of Biodiversity, Conservation and Attractions and relevant stakeholders. The outcomes of the assessment will be used to inform management measures required in Management and Environmental Management Plans (MEMPs).

Marine mammals

Marine mammal interactions with aquaculture can result from an overlap between the spatial location of aquaculture sites and the habitats and, or, migration routes of marine mammal species.

A risk assessment is underway to identify the potential direct and indirect impacts of the development and operation of the Zone on marine mammal species including whales, dolphins, seals, and sea lions. The outcomes of the risk assessment will assist in identifying management and monitoring required to address any risks.

Seagrass

A recognised seagrass expert and the University of Western Australia have been engaged to create a baseline survey of seagrass beds in the Zone. This work will complement the research and surveys that the Department of Water and Environmental Regulation has undertaken in Oyster Harbour.

This will be the second survey of the seagrass beds, with the first completed in late 2018.³

The baseline surveys will provide a reference point for further surveys once the marine aquaculture farms are in place, to assess any impact by the farms on the seagrass population and distribution.

35. What visual impact will aquaculture operations create on the water?

A well-managed and maintained aquaculture operation with orderly, parallel lines can be visually unobtrusive and provide a point of interest. For example, an Oyster Harbour charter company advertises farming operations as a point of interest in its tour itinerary.

Licence conditions will require the use of floating aquaculture gear such as buoys and other factors to be of a uniform colour, size, and shape to minimise their impact on the visual environment.

Contemporary farming methods and aquaculture gear are designed to create a low visual impact, with the floating baskets extending between 100 and 300 millimetres above the water surface. Mussel longlines may create more of a visual impact than oyster long lines although mussel production is anticipated to be a much smaller part of the operations (less than 10% of the total) in the Oyster Harbour area.

In nursery areas, the visual impact will primarily involve poles and surface racks. The poles stand less than a metre above the water or shoreline and may be visible from a distance of 500 metres.

36. How much of the water surface will be covered in aquaculture gear?

For all new licences in the Zone, aquaculture gear lines must be at least 20 metres apart. This means a maximum of 5% of the water surface allocated for the Zone may be covered by lines, floats and buoys.

³ MScience 2019. South Coast Aquaculture Development Zone Investigation: Phytoplankton and Habitat Studies. Unpublished report MSA267R03 to Department of Primary Industries and Regional Development, Perth Western Australia, pp25

Community consultation

37. Has the public been consulted about the Zone proposal?

In January 2019, DPIRD undertook an online survey to gather and assess community views on the proposed Zone development, which was facilitated by South Coast Natural Resource Management. The purpose was to gather information on any potentially significant social and amenity issues that may be associated with the implementation of the Zone. More than 400 submissions and comments were made.

Since then, more than 20 key stakeholders (including community groups, marine user groups, environmental groups, researchers, local and State Government departments) have been consulted on specific aspects of the Zone.

Several additional assessments and independent studies have been undertaken based on key stakeholder discussions. This will provide valuable input into decision making on appropriate requirements for aquaculture management and monitoring.

38. Will the public be kept informed about the management and development of the Zone?

A community engagement forum is being established to enable the local community to be fully informed about the development of the Zone.

More information

39. Where can I go for more information?

For additional information about the Albany Aquaculture Development Zone or aquaculture developments around WA, please contact aquaculture@dpiird.wa.gov.au or the Aquaculture Council of Western Australia (eo@aquaculturecouncilwa.com).

As at July 2021