



Aquaculture (Zones – Lower Eyre Peninsula) Policy 2023

Summary of Public Consultation Submissions and Responses

OCTOBER 2023

Fisheries and Aquaculture Division

Aquaculture (Zones – Lower Eyre Peninsula) Policy 2023 - Summary of Public Consultation Submissions and Responses

Information current as of 3 October 2023

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INTRODUCTION

To assist the development of the Draft Aquaculture (Zones - Lower Eyre Peninsula) Policy 2023 (the Draft Policy), pursuant to section 12 of the [Aquaculture Act 2001](#) (the Aquaculture Act), the Draft Policy and supporting Report were referred to prescribed bodies and relevant public authorities, and made publicly available on the [YourSay](#) website from 14 November 2022 to 29 January 2023 inviting feedback. At the request of some stakeholders and to provide further opportunity for feedback, PIRSA reopened the public consultation period for all stakeholders inviting feedback until 16 April 2023. Calls for submissions were also placed in public notices in the SA Government Gazette, The Advertiser, Port Lincoln Times, and Eyre Peninsula Advocate. Two public briefings were held during the consultation process, one in Port Lincoln on 7 December 2022 and one in Adelaide on 13 December 2022. Further meetings were held with aquaculture sector representative bodies, local government councils and state government agencies during this period.

PIRSA received 28 submissions during public consultation. Further details regarding the consultation process are described within the [supporting Report](#).

This document responds to submissions received during the consultation period. It also includes a description of the amendments incorporated into the finalised version of the [Aquaculture \(Zones – Lower Eyre Peninsula\) Policy 2023](#) (Final Policy) and the [supporting Report](#) resulting from those submissions. The finalised version of the Policy and supporting Report are available from the [PIRSA](#) website.

By providing objective and balanced information, PIRSA seeks to inform all stakeholders – government, industry and community – about aquaculture in South Australia.

POSITIVE FEEDBACK

General Comments

- It contributes to protect the environment and the sustainability of the lower Eyre Peninsula.
- It provides the tools to monitor sensitive ecosystems, such as seagrass meadows, which are essential fish breeding areas.
- Aquaculture zones and exclusion zones proposed in the Draft Policy provide additional benefits, such as fish corridors.
- Acknowledgment to the positive consultation effort by PIRSA in communicating the proposed Draft Policy.
- Stakeholders recognise the collaborative work across agencies and the positive changes to the industry the Draft Policy offers.
- Aquaculture should be employed to replace outdated commercial fishing methods to allow recreational fishing to flourish.
- The process to develop the Draft Policy has been very detailed and inclusive of industry, government, and the community. Decisions are science based, evidence-driven and provides a clear way forward.

Supplementary Fed Aquaculture Biomass Limits

- Support was indicated for the incorporation of flushing rates and more conservative water quality trigger values than national guidelines to estimate sustainable supplementary fed aquaculture biomass limits.
- There was support for proposed legislative ability to change supplementary fed aquaculture biomass limits via notice in the Gazette if required.
- Acknowledgement to PIRSA's rigorous approach to setting biomass limits of supplementary fed aquaculture (e.g. finfish).
- Conservation stakeholders recognise the increased focus on the potential for Integrated Multi-Trophic Aquaculture (IMTA) to mitigate high nutrients in the water.

RESPONSE TO FEEDBACK

Commercial & Recreational Fishing

There were some concerns about loss of access and compensation for recreational and commercial fishing.

The lower Eyre Peninsula region is an important area for both commercial and recreational fishing activities. Aquaculture zone policies are designed and consulted in a manner that minimises impacts on these fishing activities, as well as shipping and navigational boundaries. Recreational and commercial fishing industry representatives, including but not limited to RecFishSA, Marine Fishers Association Inc., and the Spencer Gulf and West Coast Prawn Fisherman's Association Inc., were notified of the Draft Policy's release and invited to provide feedback during the consultation period.

The Final Policy has maintained existing aquaculture exclusion zones and introduced additional areas where no aquaculture is permitted, to preserve access for other users (e.g. commercial and recreational fishing) of the marine resource, among other reasons. For aquaculture zones where aquaculture is permitted, it is important to note that not all of this area can be taken up by aquaculture, with generally 5-15% allowed for this purpose. Also, access to waters within an aquaculture zone area not under an aquaculture lease (generally 95-85% of an aquaculture zone area) by other users (e.g. commercial and recreational fishing) is not restricted. In addition, an individual aquaculture lease holder can permit other users of the marine resource access to their lease area pursuant to the Aquaculture Act. This has previously occurred for commercial and recreational fishing access, however in some circumstances this is not possible in order to protect aquaculture infrastructure and stock from damage caused by other vessel operators and activities.

Furthermore, after an aquaculture zone policy is made PIRSA's assessment and approval process for a new individual aquaculture lease and corresponding licence within an aquaculture zone considers potential risks to other users of the marine resource (e.g. access for commercial and recreational fishing) through early notification correspondence to key stakeholders (e.g. RecFishSA and commercial fishing industry bodies such as the Marine Fishers Association Inc. and the Spencer Gulf and West Coast Prawn Fisherman's Association Inc.) and prescribed public notice inviting feedback under the Aquaculture Act. Feedback obtained is considered in PIRSA's ecologically sustainable development risk assessment for the individual application, with mitigation measures employed (e.g. movement of site location) to reduce risks where required to an acceptable level (e.g. important fishing area).

Impacts to other users of the marine resource are not compensable matters under the Aquaculture Act. The marine environment is a shared resource of the State. PIRSA's zone policy design process and individual lease and corresponding licence application assessment process, considers potential risks to other users of the marine resource, including commercial fishing and aquaculture, to minimise potential impacts.

In regard to the Boston Bay (outer) sector of the Boston Bay aquaculture zone, there were specific concerns regarding loss of access for commercial prawn and marine scalefish fishing. This area was previously prescribed as the Lincoln (outer) sector of the Lincoln aquaculture zone in the former [Aquaculture \(Zones-Lower Eyre Peninsula\) Policy 2013](#) (2013 Policy), and in response to similar concerns raised in consultation for the drafting of the 2013 Policy, the sector area was reduced by 8%. To continue to minimise potential impacts to commercial fishing, the outer boundaries of this aquaculture sector area have remained the same in the Final Policy. In addition, as mentioned above, any future individual applications for a new aquaculture lease and corresponding licence within this sector will include stakeholder consultation, including the Spencer Gulf and West Coast Prawn Fishermen's Association Inc. and the Marine Fishers Association Inc., to further mitigate potential impacts from aquaculture activity including specific lease locations.

There were concerns regarding interactions of Bronze and Dusky Whaler Sharks with finfish aquaculture sites, including aquaculture licence holder mitigation, response and reporting requirements.

Within South Australia Whaler Sharks, including Bronze Whaler and Dusky Shark, are not classified as a protected species under the *Fisheries Management Act 2007* or *Environment Protection and Biodiversity Conservation Act 1999*. They are permitted to be caught in the South Australian Marine Scalefish Commercial Fishery (input control management, no quota/daily catch limit; total annual catch 45 to 90 tonnes last 10 years), Charter Boat Fishery (trip catch limit – 1 per passenger) and Recreational Fishery (daily catch limit – 1 per person/3 per boat if > 3 persons onboard; 2021/22 estimated annual recreational catch ~138 individuals retained). Their biological stock status in South Australia is currently classified as undefined due to uncertainties and limited data around the proportion of species in the catches (Smart, J. *et al.*, 2023; Beckman *et al.*, 2023).

Two South Australian studies investigating the movement and residence of White Sharks and Bronze Whalers around commercial finfish aquaculture sites identified that finfish aquaculture does not lead to aggregations of sharks to an area (Rogers and Drew 2018; Huveneers *et al.* 2022; see supporting Report for further information). The results of these studies can also be applied to the behaviour of Dusky Sharks as they are closely related to Bronze Whalers. To mitigate adverse interactions with sharks from aquaculture operations, all marine-based aquaculture licence holders are required to abide by the requirements of regulation 18 of the [Aquaculture Regulations 2016](#) (the Aquaculture Regulations), through submission and, adherence to, a strategy approved by the Minister responsible for the Aquaculture Act (the Minister). The aquaculture strategy must specify how licence holders will avoid or minimise impacts on, or adverse interactions with seabirds and large marine vertebrates (e.g. sharks), as well as a response plan for dealing with these events should they occur. The licence holder must ensure that activities under the licence conform to the aquaculture strategy. Penalties apply should activities not conform.

In regard to adverse shark interactions with finfish aquaculture sea-cages, finfish aquaculture licence holder strategies primarily aim to mitigate this through prevention of sharks entering sea-cages in the first instance. It is critical for finfish aquaculture licence holders to prevent sharks from entering sea-cages as they can damage aquaculture stock leading to loss of revenue. Their strategies prevent entry through daily inspections of sea-cages to remove any dead and moribund fish (weather permitting) and to identify and immediately repair any net damage, as well as regular net maintenance and keeping nets/ropes taut. Should a shark enter a sea-cage, every effort is made to release the animal alive and unharmed (e.g. swim with diver assistance back out a hole in the net), however should these attempts fail and a workers life is threatened the animal may be humanely dispatched using permitted devices/methods, including through a Marine Scalefish Commercial Fishery licence holder undertaking the activity. Finfish aquaculture employers reserve the right under the [Work Health and Safety Act 2012](#) to protect their workers from harm.

All finfish aquaculture licence holders are required under regulation 22 of the Aquaculture Regulations to provide an annual environmental monitoring report to PIRSA for the past 12 months of operation, including any adverse interactions with sharks. From these reports, mortality of Whaler Sharks in finfish aquaculture compared to commercial and recreational fishing is considered to be negligible, with ten reported

mortalities to PIRSA over the past three years. Should the biological stock status of Whaler Sharks decline in the future, PIRSA will investigate whether further management arrangements are required to reduce adverse interactions with aquaculture.

Prescribed Biomass Limits

There were concerns about using national water quality guidelines as triggers for monitoring potential impacts of supplementary fed aquaculture.

There were concerns about relying on ANZECC guidelines to calculate maximum biomass limits of supplementary fed aquaculture.

The Australian and New Zealand Environment and Conservation Council (ANZECC)/Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) provide national Water Quality Guideline Values (WQGV) to manage water quality in Australia and New Zealand (ANZECC/ ARMCANZ, 2018). Note that within the ANZECC/ARMCANZ framework, if WQGV are reached this does not automatically imply that an activity must cease, but rather further investigation of the activity (e.g. environmental monitoring) should be considered to detect, prevent or minimise the potential for environmental harm. For South Australia, the national WQGV for ammonium (NH_4^+) is 50 mg/m^3 which the Environment Protection Authority (EPA) has adopted in their [*Environment Protection \(Water Quality\) Policy 2015*](#). In modelling maximum biomass limits for supplementary fed classes of aquaculture for both the former 2013 Policy and Final Policy, PIRSA have taken a more conservative approach. For example lower water quality values have been used to determine biomass limits in the Final Policy, which are up to five times less (e.g. $10 \text{ mg/m}^3 \text{ NH}_4^+$ for inshore areas) in some cases so that nutrient concentrations in receiving environments (outside aquaculture zones) reach average background nutrient levels.

Nutrients from supplementary fed classes of aquaculture have not breached national WQGV's. Regardless, for the past ~20 years PIRSA has and continues to require these aquaculture sectors to undertake ongoing annual environmental monitoring and additional specific periodic environmental monitoring developed in consultation with the EPA and the South Australian Research and Development Institute (SARDI) as a conservative measure.

There is further detailed information regarding WQGV's and environmental monitoring contained within the supporting Report.

There were some concerns about supplementary fed aquaculture biomass limit increases in the Draft Policy.

There were recommendations to adopt a precautionary and adaptive approach to setting finfish biomass triggers.

Supplementary fed aquaculture biomass limits in the Final Policy were based on the latest published aquaculture carrying capacity modelling by SARDI (using validated oceanographic models) and also used conservative ammonium water quality values below (up to five times lower within inshore areas) the ANZECC/ARMCANZ guidelines and the EPA *Environment Protection (Water Quality) Policy 2015* (see above). The science (modelling) indicated increased biomass limits for supplementary fed aquaculture in offshore well-flushed areas where aquaculture nutrients are rapidly diluted and assimilated to background levels, which was captured in the Final Policy

and supporting Report. No increases are proposed for inshore areas, such as the Boston Bay sector.

Finer scale modelled nutrient outputs (converted to estimated biomass) within each flushing area will be used to refine and manage biomass limits within aquaculture zones and sectors. This will be achieved at the lease/licence application assessment level (e.g. spatial allocation during lease movement applications within/between sectors, new lease/licence applications), like other site based risks, which is the current legislated application assessment process previously published in a peer reviewed journal (Lauer *et al.*, 2015). The supporting Report has been amended to reiterate this.

In addition, SARDI's carrying capacity modelling does not currently take into account aquaculture nutrient offsets by other forms of extractive aquaculture (i.e. bivalves – mussels/oysters, and seaweed or algae) in the region, further highlighting that biomass limits in the Final Policy are conservative. To provide further aquaculture ecosystem services and nutrient uptake, in particular nutrient offsets from supplementary fed classes of aquaculture, the Final Policy has been amended to provide additional hectares for algae aquaculture in certain aquaculture zones in the Final Policy. See the supporting Report for further information.

Note that biomass limits in a zone policy are potential daily limits, and it is the actual grant of individual aquaculture leases and corresponding licences following application under the Aquaculture Act which permit biomass to be farmed. The legislated application assessment process includes public notification, an ecologically sustainable development risk assessment which considers site specific nutrient inputs, and referral to the EPA for approval of the licence. Further, the reality of aquaculture farming practices means that peak biomass amounts are not farmed on a daily basis, but rather for relatively short periods of time during a year because of a number of factors, including international tuna quota limits, year class farming at each site, and fallowing sites.

The aquaculture industry and SARDI have been undertaking annual environmental monitoring for over 20 years in the region, with no unacceptable impacts to inshore ecosystems identified. Despite nutrients from supplementary fed classes of aquaculture being under national WQGV's, the current annual regional environmental monitoring program undertaken by SARDI, developed in agreement with the aquaculture industry, PIRSA and the EPA, will be used to determine if unacceptable impacts are occurring to the local marine ecosystem and resulting adaptive management responses under the Aquaculture Act and subordinate legislation. This includes amending supplementary fed aquaculture biomass limits in the Final Policy via Gazette notice provisions if required.

There were comments concerning managing supplementary fed aquaculture biomass limits through the licence application process.

Aquaculture zone policies are a marine spatial planning tool which provide a legislative framework for the activity of aquaculture to potentially occur within an area. This includes prescribing potential daily maximum biomass limits of permitted classes of aquaculture within individual aquaculture zones/sectors, such as supplementary fed aquaculture. They do not authorise an individual aquaculture activity to occur or aquaculture infrastructure to occupy the seabed, as it is the actual grant of individual aquaculture leases and corresponding licences following application under the Aquaculture Act which permit this. Further, conditions of individual corresponding

licences dictate the maximum biomass of aquaculture species each corresponding licence is permitted to farm, which when combined must be less than or equal to the overall aquaculture zone/sector maximum biomass limit contained within a policy.

Consistent with all aquaculture zone policies, now that the Final Policy has been made, the allocation/distribution of biomass within individual aquaculture zones/sectors will be managed through the legislated assessment and approval process for each individual aquaculture lease and corresponding licence application under the Aquaculture Act. This includes public notification, an ecologically sustainable development risk assessment which considers site specific nutrient inputs, and referral to the EPA for approval of the licence. The application assessment process will also include using the new finer scale biomass limit estimates within each flushing area within each aquaculture zone/sector, and the latest carrying capacity model outputs, to inform spatial allocation of supplementary fed aquaculture biomass for each individual corresponding licence via conditions. Considering the above, the application assessment process is considered adequate to manage allocation of supplementary fed aquaculture biomass for each individual aquaculture zone/sector within aquaculture zone policy maximum biomass limits.

It was suggested the Draft Policy is amended to include a strategic plan for moving finfish biomass offshore into well flushed areas.

This is a key objective underpinning the review of the 2013 Policy. The Final Policy encourages proponents of supplementary fed aquaculture to move existing sites or locate new sites further offshore, within an aquaculture zone/sector, to higher flushed areas if they want access to greater biomass. Maximum biomass limits of aquaculture zones/sectors for supplementary fed aquaculture have been prescribed in the Final Policy to reflect this. The supporting Report provides further information regarding how this objective will be implemented, including through the assessment process for each individual aquaculture lease and corresponding licence application as well as through environmental monitoring and adaptive management arrangements.

There were concerns that supplementary fed aquaculture biomass limit calculations being averaged across different flushing rate areas, within an aquaculture zone, may lead to higher biomass limits in low flushing areas.

Supplementary fed aquaculture maximum biomass limits are not averaged across flush rate areas within an aquaculture zone/sector. Instead fine scale modelled supplementary fed aquaculture nutrient data (at the lease site and flush rate areas converted to estimated biomass) are added together to provide a total maximum biomass limit for each aquaculture zone/sector. The new finer scale biomass limit estimates within each flush rate area within each aquaculture zone/sector will be taken into consideration during the legislated assessment process for each individual corresponding licence application to inform spatial allocation of supplementary fed aquaculture biomass via conditions (e.g. spatial allocation during lease movement applications within/between sectors, new lease/licence applications), like other site-based risks. Further, PIRSA will utilise the latest relevant oceanographic model outputs during the application assessment stage to inform spatial allocation of supplementary fed aquaculture biomass. As flushing timescale contours are broad general indicators of flushing, they have not been used to re-define the boundaries of each aquaculture zone/sector but rather will be used to better inform site based assessment processes for individual corresponding licence applications. This has been reiterated in the supporting Report.

It was commented that the proposed carrying capacity model does not include algae.

This is correct, the new model was specifically designed to estimate carrying capacity levels for supplementary fed classes of aquaculture (i.e., finfish and Southern Bluefin Tuna). The farming of algae, or seaweed, is still in its infancy in South Australia; therefore, there are difficulties in confidently predicting the potential carrying capacity for this type of non-supplementary fed class of aquaculture. Conservative biomass limits for this aquaculture class will continue to be managed through licence conditions, consistent with the 2013 Policy and other aquaculture zone policies, until there is enough scientific evidence to suggest a different method. PIRSA are currently collaborating with the Blue Economy Cooperative Research Centre and SARDI to acquire funding, including through the Fisheries Research and Development Corporation, to undertake research into algae carrying capacity via an IMTA system modelled within the Final Policy.

It is important to note that as SARDI's carrying capacity modelling does not currently take into account aquaculture nutrient offsets by other forms of extractive aquaculture (i.e. bivalves – mussels/oysters, and seaweed or algae) in the region, supplementary fed biomass limits in the Final Policy are conservative.

Environmental Monitoring

It was requested that draft AEMP's are made publicly available, undergo independent scientific review, are appropriately resourced, and results released annually.

Aquaculture environmental monitoring programs (AEMP's) are not part of the zone policy review process as prescribed by the Aquaculture Act. The finfish and tuna aquaculture sectors provide significant contributions to fund the 4-year AEMP, which are designed by scientific experts from SARDI, along with PIRSA and SA's independent environment protection regulator in the EPA. The scientists in SARDI are internationally recognised as experts in their respective science fields. The modelling used to underpin the AEMP has been peer reviewed and published in scientific journals (Middleton & Doubell 2014; Middleton *et al.*, 2014). Further, AEMP's are also based on recommendations from an independent review of PIRSA's environmental monitoring programs for the SA aquaculture sector by the Commonwealth Scientific and Industrial Research Organisation (CSIRO), which was initiated by PIRSA (see [FRDC project number 2011-263](#)). Given the level of scientific expertise/rigour involved in the drafting process for AEMP's, draft AEMP's are not made publicly available. However, full details of AEMP's, including their methodology and results, are made publicly available through publication of the final SARDI AEMP report on the [PIRSA website](#) once completed (Tanner *et al.*, 2020). In addition, their methodology and annual results are made publicly available through publication of PIRSA's annual ZONING IN: South Australian Aquaculture Report on the [PIRSA website](#) (PIRSA 2023).

It was commented that AEMP's should consist of annual, spatially structured monitoring of pelagic and benthic ecosystems (especially seagrass), to support adaptive management of supplementary fed aquaculture, including biomass limits.

There were concerns for supplementary fed aquaculture negatively impacting seagrass communities in the lower Eyre Peninsula.

The 2015-19 AEMP consisted of monitoring the pelagic environment through biannual water quality, nutrients, phytoplankton, bacteria and virus measurements, plus biennial benthic infauna sampling across 16 sites in lower Spencer Gulf (see Tanner *et al.* 2020). Since 2019, the infauna component of the AEMP has been replaced with a seagrass component. The current 4-year AEMP consists of monitoring regional inshore benthic (seagrass communities) and pelagic ecosystems, to focus on the fate/consequences of nutrients being added to the system from supplementary fed aquaculture. In addition to the AEMP, the finfish industry has been required to undertake additional monitoring in the lower Spencer Gulf area since 2020, to supplement the AEMP data. This includes measuring seagrass condition and health on an annual basis using methodology employed by the EPA and SARDI.

Results of monitoring are reviewed by PIRSA on an annual basis through SARDI milestone reports, and in conjunction with the EPA and aquaculture industry, with adaptive management arrangements employed dependent on results (see section 7.2.3 of the supporting Report for further information). This includes the ability to alter biomass limits through varying conditions of individual licences and the Final Policy itself via Gazette notice. Further information regarding the current 4-year AEMP is also contained in the PIRSA ZONING:IN South Australian Aquaculture Report on the [PIRSA website](#).

There is currently no substantiated evidence, including from PIRSA's and the EPA's [Aquatic Ecosystem Condition Reports](#) (AECR's) environmental monitoring programs, showing that nutrients derived from supplementary fed aquaculture have directly impacted (positively or negatively) changes in seagrass communities in the lower Eyre Peninsula area. While small changes (increases and decreases) have been observed between 2010 and 2022, it is unclear whether they are the result of natural variability, anthropogenic factors, different methodologies or a combination of those. Therefore, results from the various monitoring programs, including research projects (e.g. [FRDC project 2018-186](#)) and the current AEMP, and published scientific literature will continue to help understand any changes in seagrass communities.

There were inquiries regarding informing stakeholders about results from benthic assessments for aquaculture leases before and after the activity.

Benthic assessments of aquaculture sites are undertaken before, during and/or after aquaculture activities occur as part of PIRSA's application assessment process (e.g. new leases, lease movement, surrender/expiry/cancellation of leases), requirements of licence conditions (e.g. a periodic EMP) and the Regulations (regulation 22 and 23) for environmental monitoring programs, PIRSA's zone policy technical investigation process, and routine compliance inspections by PIRSA.

Results of environmental monitoring, including benthic monitoring, are publicly reported on through PIRSA's annual ZONING IN: South Australian Aquaculture Report on the [PIRSA website](#). Further, a project undertaken by SARDI statistically analysed benthic assessments (infauna) between 2005 and 2014 and found that there was no evidence to suggest supplementary fed aquaculture impacted infaunal assemblages (Tanner *et al.*, 2017).

There are requirements under the Regulations (regulation 11, 12, and 25) and [Aquaculture \(Standard Lease and Licence Conditions\) Policy 2022](#) (Standard

Conditions Policy; clause 28) for aquaculture lease and licence holders regarding minimising benthic impacts from their aquaculture activities, including seafloor rehabilitation. Sections 48A and 58 of the Aquaculture Act also provide the ability for the Minister to direct a lessee or licensee to undertake these requirements should they fail to do so, and the Minister may cause the required action to be undertaken and recover the cost from them as a debt. Further information regarding rehabilitation of aquaculture leases is contained within the [supporting Report](#) for the Standard Conditions Policy.

During PIRSA's assessment of aquaculture applications (e.g. new leases), key stakeholders are always notified at the early stages of the assessment process seeking feedback. Further information concerning benthic habitats can be provided by PIRSA at this time, and information can be requested from PIRSA separate to this process at any stage.

Queries were raised about what chemicals are used by licence holders and who monitors their use.

Veterinary medicines are important disease management tools. When used correctly, veterinary medicines play a valuable role in ensuring animal welfare and maximising the quality and yield of primary produce. Aquaculture farmers must endeavour to use veterinary medicines that are registered under the National [Agricultural and Veterinary Chemicals Code Act 1994](#) (Agvet Code) administered by the Australian regulator in the Australian Pesticides and Veterinary Medicines Authority (APVMA). Use of these products must be in accordance with either a minor use permit or registration under the South Australian [Agriculture and Veterinary Products \(Control of Use\) Act 2002](#). However, for veterinary medicines that are not permitted or registered with the APVMA, the Aquaculture Regulations (regulation 10) provides a mechanism for off-label use (unregistered with the APVMA) under prescription from a registered veterinarian. Reasons for off-label use include new emergent diseases in aquaculture (a comparably young primary industry farming new species), emergencies and experimental treatments to facilitate data collection for APVMA minor use permits or registration.

For off-label veterinary medicine applications under the Aquaculture Regulations, PIRSA requires a veterinary prescription and information on the product, disease diagnosis, species to be treated, efficacy, host safety and environmental risk (including environmental toxicity). Risk assessment, calculation of environmental trigger values and predicted residue calculations are included in the assessment process agreed to by the EPA. The EPA is consulted with for applications that include discharge to the environment. Requests for use of antibiotics are considered in line with the World Organisation for Animal Health (OIE) [Aquatic Animal Health Code](#) and in line with [Australia's National Antimicrobial Resistance Strategy](#) (AMR); that is, treatments for a diagnosed disease are considered (but not prophylactic treatment). For further information, see the [PIRSA website](#).

All aquaculture licence holders are required under regulation 22 and 29 of the Aquaculture Regulations to provide an annual report to PIRSA of their chemical usage. Details on each aquaculture sectors chemical use are made publicly available through PIRSA's annual ZONING IN: South Australian Aquaculture Report on the [PIRSA website](#).

Hectare Allocation and Boundaries

It was suggested that hectare allocation for seaweed farming should be increased further to improve that sectors economic viability.

Following consideration of submissions received and additional consultation with key stakeholders, the Final Policy has been amended to include more hectares for seaweed aquaculture in certain aquaculture zones to provide further ecosystem services and nutrient uptake. These are the Boston Bay and Bickers Isles sectors of the Boston Bay aquaculture zone and the Lincoln (inner) sector of the Lincoln aquaculture zone. These measures will also provide for further sustainable growth of the seaweed aquaculture sector. Further information regarding these amendments can be found in the finalised supporting Report.

It was suggested the Murray Point aquaculture zone be extended further west and leasable hectares increased for intertidal aquaculture.

Due to concerns from the recreational fishing industry, Native Title interests, and proximity to the shoreline and local residents (i.e. visual amenity risks) in this aquaculture zone, PIRSA has decided not to increase the leasable area any further than the 2 hectare increase already included or alter the aquaculture zone boundary.

Aquaculture Waste/Debris & Navigational Safety

There were concerns about debris, such as ropes, posts, buoys, and nets on the shoreline caused by aquaculture infrastructure and sites requiring clean up after decommissioning.

Concerns were raised in the Proper Bay area that increased aquaculture would result in ropes and debris causing navigational hazards for recreational fishers at night.

There are strict requirements under the Aquaculture Regulations, Aquaculture Act and Standard Conditions Policy to mitigate and respond to aquaculture waste/debris and navigational risks. Farming structures must be securely fixed to remain wholly within licence areas and be maintained in good working condition (regulation 25). Aquaculture licence holders must also have a strategy approved by the Minister which includes maintaining farming structures/equipment and regular site inspections under regulation 18. Regulation 11 prescribes that aquaculture licence holders must ensure that aquaculture waste does not cause an unsightly or offensive condition at the licence area and it is secured or treated in a manner designed to prevent it being blown, washed, or swept off the licence area. Further, a licensee must ensure that, if aquaculture waste or a farming structure or any other aquaculture equipment used to secure, anchor or mark the position of a farming structure, is blown, washed or swept off the licence area, the waste, structure or equipment is recovered as soon as practicable but in any event within 7 days (regulation 12).

In regard to navigational marking requirements of aquaculture sites, it is a condition of all aquaculture leases under clause 26 of the Standard Conditions Policy that navigational marks (including yellow reflective tape/discs and flashing lights for subtidal sites) must be installed whenever structures are located in the lease area. For any applications for a new aquaculture lease site or movement of an existing aquaculture lease site, concurrence must be received from the Minister responsible for the [Harbors and Navigation Act 1993](#), prior to a lease being granted or varied (i.e. moved).

PIRSA monitors and responds to instances of aquaculture waste/debris and navigational risks through mandatory reporting requirements by licence holders under regulation 29 (annual reporting) and clause 36 of the Standard Conditions Policy (immediate reporting of a material risk to navigational safety), routine compliance inspections by Fisheries Officers, and through reports to PIRSA of alleged non-compliance by the community. There are expiation and penalty offence provisions for non-compliance by licence holders with their legislative requirements. Management responses by PIRSA to aquaculture waste/debris and navigational risks from aquaculture activities under a marine-based licence are dependent on the circumstances of each event. This includes, but not limited to, the type and amount of debris, the frequency of these types of events from the aquaculture licence holder or aquaculture sector, the cause of the debris, and the resulting risks and any impacts from the debris to the marine environment and mariners.

Management responses by PIRSA to mitigate an immediate risk and any future risks from an event may include:

- Requesting the Department for Infrastructure and Transport (DIT) to issue a notice to mariners advising of a navigational risk; directing the licence holder to recover marine debris pursuant to section 58 of the Aquaculture Act if they had failed to do so under the Aquaculture Regulations.
- PIRSA undertaking the recovery of marine debris through Fisheries Officers or contractors if the licensee had failed to do so under a direction issued pursuant to section 58 of the Aquaculture Act and recovering the cost, as a debt, from the licensee.

The aquaculture industry has also been undertaking for a number of years their own regular coastline marine debris clean-up programs. These are the Adopt-a-Beach Program led by the Australian Southern Bluefin Tuna Industry Association (ASBTIA) and supported by the Finfish and Mussel industries for the lower Spencer Gulf region, and the Coastline Debris Recovery Program led by the South Australian Oyster Growers Association (SAOGA) in Oyster farming regions. Debris collected and appropriately disposed of during these programs includes non-aquaculture related debris. Further information regarding these programs is contained within PIRSA's annual ZONING IN: South Australian Aquaculture Report on the [PIRSA website](#).

Concerning rehabilitation of aquaculture sites, there are requirements under clause 28 of the Standard Conditions Policy for aquaculture lease holders. Section 48A of the Aquaculture Act also provides the ability for the Minister to direct a lessee to undertake rehabilitation requirements should they fail to do so, and the Minister may cause the required action to be undertaken and recover the cost from them as a debt. Further information regarding rehabilitation of aquaculture leases is contained within the [supporting Report](#) for the Standard Conditions Policy.

Seabirds

There were concerns for adverse interactions with penguins and aquaculture.

There have been no adverse interactions with penguins and aquaculture reported to PIRSA despite decades of operations. PIRSA undertake an ecologically sustainable development risks assessment prior to the approval of an aquaculture licence that includes investigation of the potential impacts to seabirds that may occur in the area. Regulation 18 of the Aquaculture Regulations requires all marine-based licence

holders to have a strategy approved by the Minister for avoiding or minimising adverse impacts on, or adverse interactions with seabirds or large marine vertebrates. Clause 35 of the Standard Conditions Policy ensures marine-based licence holders take all reasonable and practical measures to prevent adverse interactions with seabirds and large marine vertebrates, in the event that an aquaculture strategy has not yet been approved by the Minister pursuant to the Aquaculture Regulations.

Should an adverse interaction occur, licence holders are required under regulation 27 of the Aquaculture Regulations to report the incident as soon as they become aware of the interaction, and work with PIRSA and relevant agencies (e.g. the Department for Environment and Water) to resolve the incident, and where required, undertake a review of mitigation strategies. Other management responses can be employed by PIRSA depending on the situation, including directing licence holders under licence conditions from ceasing using certain types of aquaculture equipment in order to prevent or mitigate significant environmental harm or the risk of significant environmental harm.

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