Oysters Tasmania (OT) Research Development and Extension (RD&E) Priorities

High priority projects in **bold**. Other projects are medium priority.

Potential funding contributors in brackets. Most projects have multiple potential funding sources.

1. Projects not specific to oysters (SMRCA, RAC)

Project 1. Natural environment measurement (BE CRC)

Covering:

-the generation of hydrodynamic and biogeographical models for the South-East and East coast (with a view to subsequent work for the North-West coast);

-populating these models with data from oyster growing areas:

- currently available sensor data — salinity, temperature, and depth;
- new sensor data — chlorophyll a, dissolved oxygen, pH, and turbidity;
- currently available test results — biotoxins, phytoplankton, and faecal bacteria;
- background phage levels, an indicator of norovirus (establishing a local PCR testing capability);
- identifying species responsible for faeces in waters, and other contaminants and possible industry source;

-measuring oyster growth, and other variables of commercial interest, analysing the correlation of these variables with the natural environment data in the models, and reporting thereon (e.g. re carrying capacity); and

-applying the models to undeveloped leases to identify potentially productive sites and approaches to development (e.g. positioning lines), surveying leaseholders on barriers to development (e.g. racking costs, fees), and reporting thereon (including on facilitative fee distribution alternatives).

Project 2. Pooled activities

Covering: examination, design, and communication to growers of cost-effective options, cognisant of confidentiality and competition considerations, for: pooled purchasing of inputs including new inputs (e.g. sustainable packaging); cooperative collection of samples, marine debris, and wild Pacific oysters; relaying; collection and re-use of shells; collection and recycling of plastics; and grower-to-grower sharing, or grower-to-OT sharing, of production and market information, to inform industry growth targets and programs to achieve them.

Project 3. Rapid on-farm biotoxin risk indicators (OA)

Covering: product replacement/saxitoxin production in response to the announced late-2023 withdrawal of Neogen test kits.

2. Projects specific to oysters and Tasmania (SMRCA)

<u>Project 4. Impact of lease and licence arrangements on finance and investment</u> Covering: the impact on business certainty, access to finance, borrowing costs, and on-water investment, of the registration of interests in marine farm leases (vis-à-vis the registration of interests in in wild catch quotas), Ministerial discretion in lease and licence law, and the duration of leases and licences; and the relationship of lease and licence fees to their property value.
<u>Project 5. Impact of land planning scheme on industry viability and growth</u> Covering: land-base, boat ramp and transit rules; state and local government influence points; communicating findings to growers.
<u>Project 6.Targeted review of specific areas with intermediate POMS classification</u> Covering: review of intermediate status of Hastings Bay and Eaglehawk Bay, which had no evidence of POMS in 2016 or since and which are more than 5 nautical miles from an infected area, through independent sampling and testing over two summers during periods of high temperatures; broad industry engagement throughout.
Project 7. Ongoing delivery of IMAS services to ShellMAP Including: area-by-area analysis of whether the introduction of salinity as an official trigger for area closure, with commensurate easing of rainfall and river flow triggers to maintain the regulatory food safety standard, increases harvest periods, and improves the ability to predict harvest periods; potential input to amendment of Tasmanian ShellMAP Biotoxin Management Plan to remove compulsory testing in areas exclusively producing juvenile stock for maturation elsewhere, remove compulsory phytoplankton testing given compulsory meat testing, and to implement the 2021 McCoubrey Turnbull Biotoxin Review recommendations.

3. Projects specific to oysters, potentially multi-jurisdictional (SMRCA?, OA)

Project 8. Precision farming with AI and genomics (BE CRC)

Covering: development of phenotyping tool for assessing length, width, and shape in the first instance, followed by weight and visual meat condition characteristics; feeding results from phenotyping tool into selective breeding program; trial application of genomics in breeding program targeting preferred characteristics; drawing on grower input on preferred characteristics from Project 1. Relevant to FRDC Innovation Fund.

Project 9. Flotation, anti-biofouling, and on-water grading at high energy sites (BE CRC)

Covering: trialling and assessment of multiple flotation and anti-fouling options at existing high energy licensed leases and reporting on findings (including on relevance of anti-fouling findings for inter-tidal leases); design of prototype for on-water grading, trialling, and reporting.

Project 10. Assessment of artificial intertidal system (BE CRC)

Covering: assessment of system developed by Steven Leslie/ Yvonne Young, Garfish Bay, re robustness in high energy environment and cost-effectiveness vis-à-vis established subtidal farming systems.

Project 11. Linking the farm through to the consumer

Covering: development/trialling of online tools to track post-sale temperature/location data for food safety purposes and to deliver to consumers information about oyster production, building on the work from the 22-23 Biosecurity Tasmania traceability grant; market research of State shares of national markets, consumer attitudes, and the impact of State-specific marketing/branding; investigation of co-mingling.

Project 12. Deep water microbial risk (BE CRC)

Covering: collection, testing, and analysis of two years of samples in Great Oyster Bay taken at depths of 30 centimetres (the depth currently used for area classification decisions) and 5 metres (the depth at which stock is grown); consideration of relevance of conditions at a depth of 30 centimetres given that harvested stock passes through this water.

Project 13. Services to ASQAAC

Covering: revision of federal seafood standard 4.2.1; production of federal oyster farming food safety program template; ASQAP revisions e.g. relaying post sewage spills; general coordination, engagement, record keeping.

Project 14. On-farm data management

Covering: support the extension of existing commercial online tools to: ensure all information required by regulators, such as information for food safety recalls and audits, can be managed online; and share confidentialised data between participating growers for benchmarking purposes.

Project 15. Extension of R&D to growers

Covering: inclusion in oyster farm management training and industry gatherings of contemporary information on disease risks, mitigation methods, and natural conditions, equipment, techniques, and breeding program selections that are supportive of productivity.